

Radio

# AMATEUR

Call Book Magazine

**\$2.00**  
Foreign  
**\$2.25**



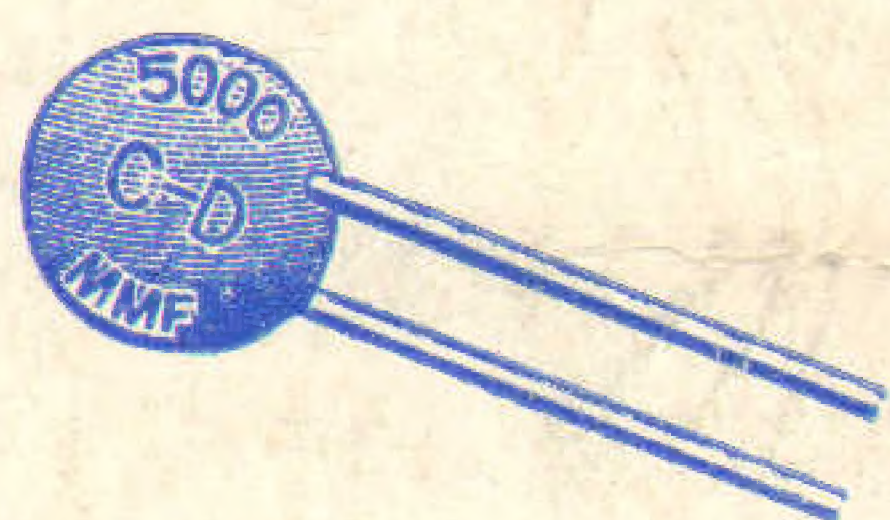
**SUMMER 1950**



there's no better  
**"PERSONAL RECOMMENDATION"**  
 than your own experience with

CONSISTENTLY DEPENDABLE

# CORNELL-DUBILIER CAPACITORS



**"Tiny Mike"\*** Miniature Ceramic Disc Capacitors  
 Complete capacity range at 500 VDCW.

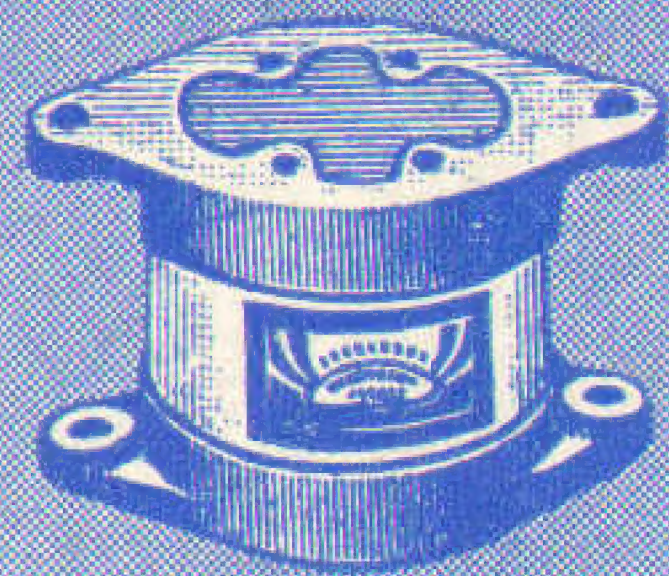
**C-D**

**VIBRATORS  
 CONVERTERS  
 ROTATORS  
 ANTENNAS**

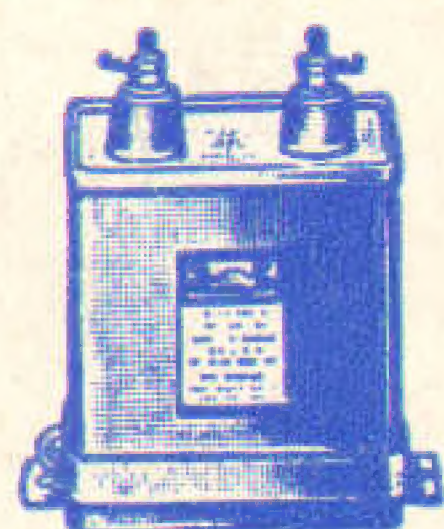
That's why "hams" have learned to insist on "Cornell-Dubilier-and-nothing-else-but" in buying capacitors. And now you can get the same extras in performance and dependability on *other* products too—by looking for the name "Cornell-Dubilier" on vibrators, converters, rotators and antennas, as well as on capacitors!

Write today for C-D Catalog 200B for full details. Your free one-year subscription to the "Capacitor"—C-D's valuable monthly digest of practical radio information is waiting for you. Have you sent in your subscription? Cornell-Dubilier Electric Corporation, Dept. JH20, South Plainfield, New Jersey. Other plants in New Bedford, Worcester, and Brookline, Mass.; Providence, R. I., Indianapolis, Ind., and subsidiary Radiart Corp., Cleveland, Ohio.

For nearest C-D jobber see your classified telephone directory.

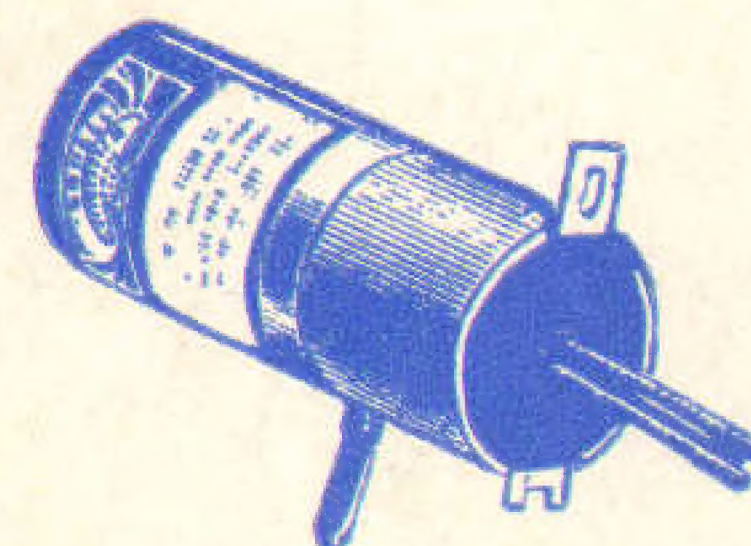


**Famous C-D Mica Transmitter Capacitors**  
 Type 50 series. With patented series stack construction. Also Faradon units.

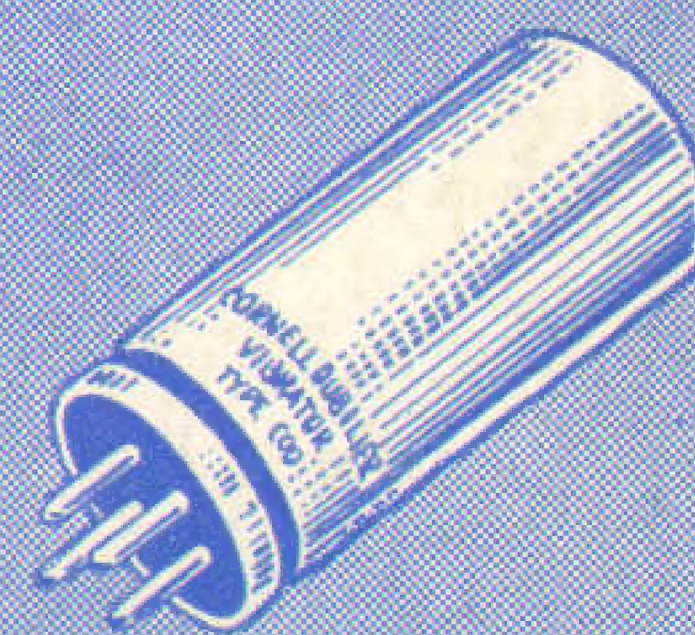


**Dykanol\* Transmitter Capacitors**  
 Type T series. Finest and most dependable for all amateur and broadcast applications for a hermetically sealed oil capacitor.

**Best by**



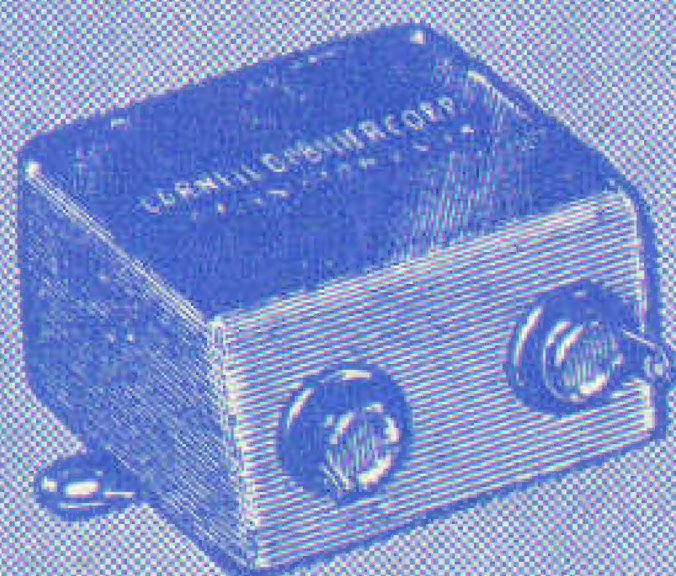
**Universal Mounting Type EZ Electrolytics**



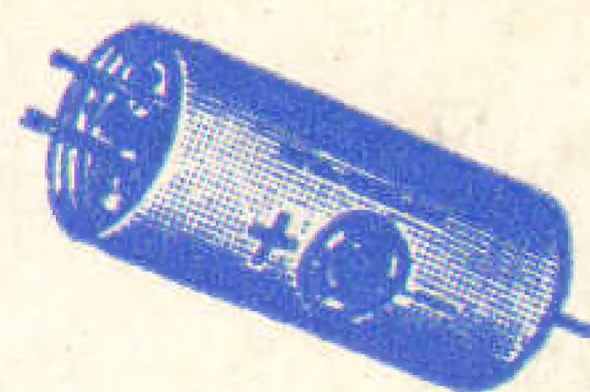
**"Quietone"\*** Vibrators  
 Quieter, longer lasting, trouble-free.



**Dependable Moulded Mica**  
 Types 4 and 9.

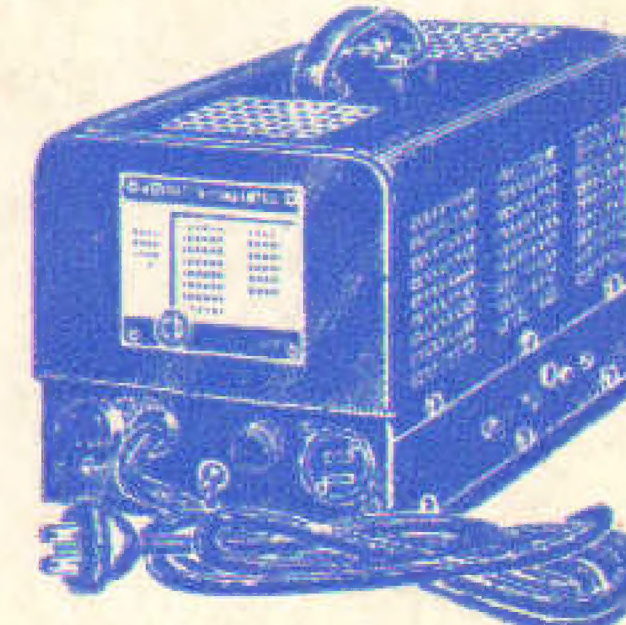


**Type DYS Dykanol\* Filled Bypass Capacitors**

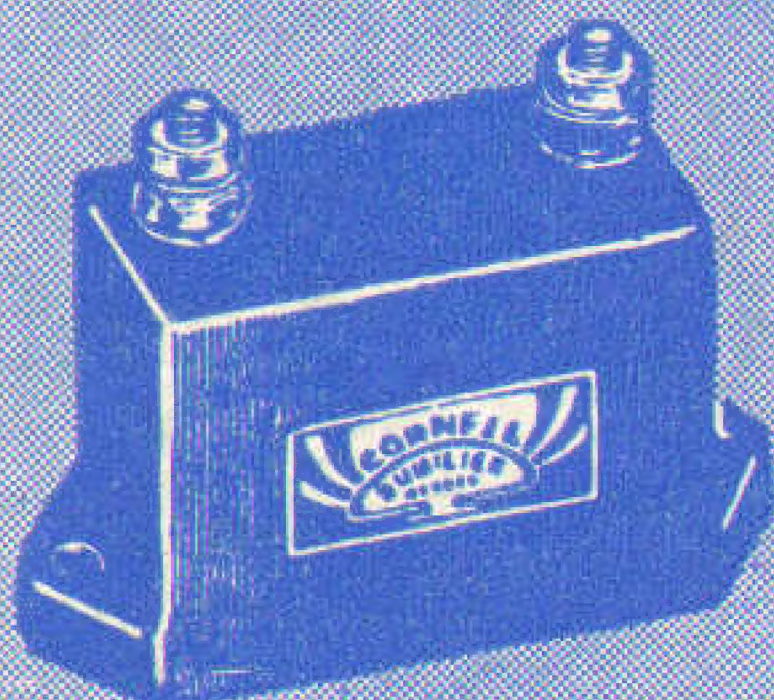


**"Blue Beaver"\*** Electrolytics  
 Best for the money for all applications where dependability and economy are "musts."

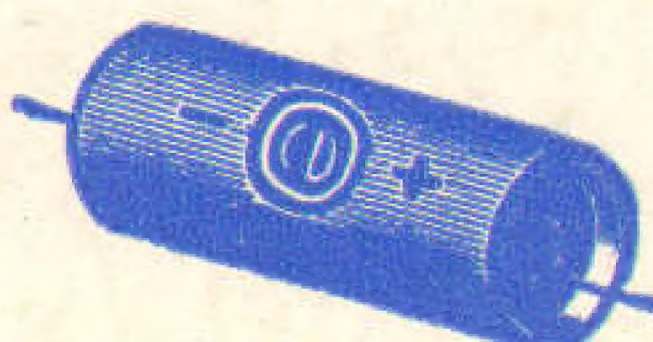
**Field Test**



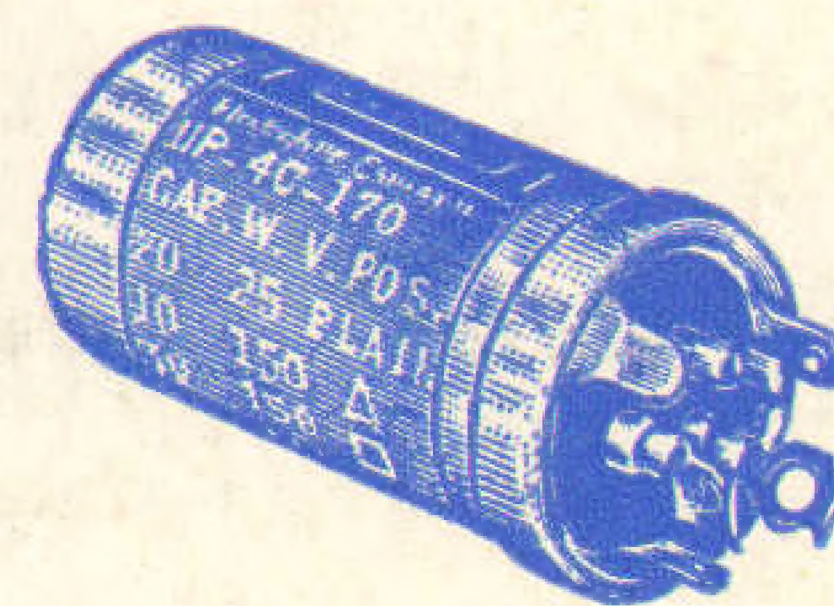
**"Powercon"\*** Converters  
 For DC to AC; AC to DC and DC to DC conversion. More dependable, more efficient!



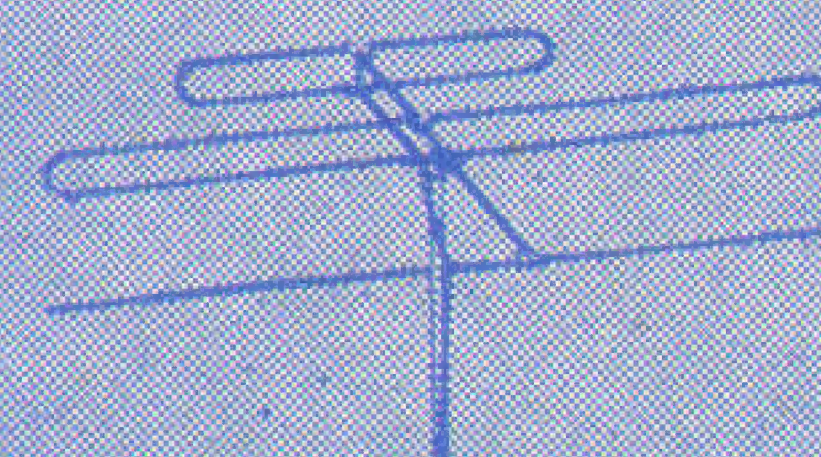
**Bakelite Cased Mica Capacitors**  
 Types 6, 15L and 30B.



**"Blue Cubs"\***  
 With welded leads! The greatest development in molded, paper tubular capacitors



**Type UP Prong Base Type Electrolytics**  
 The finest electrolytic for TV and high voltage applications.

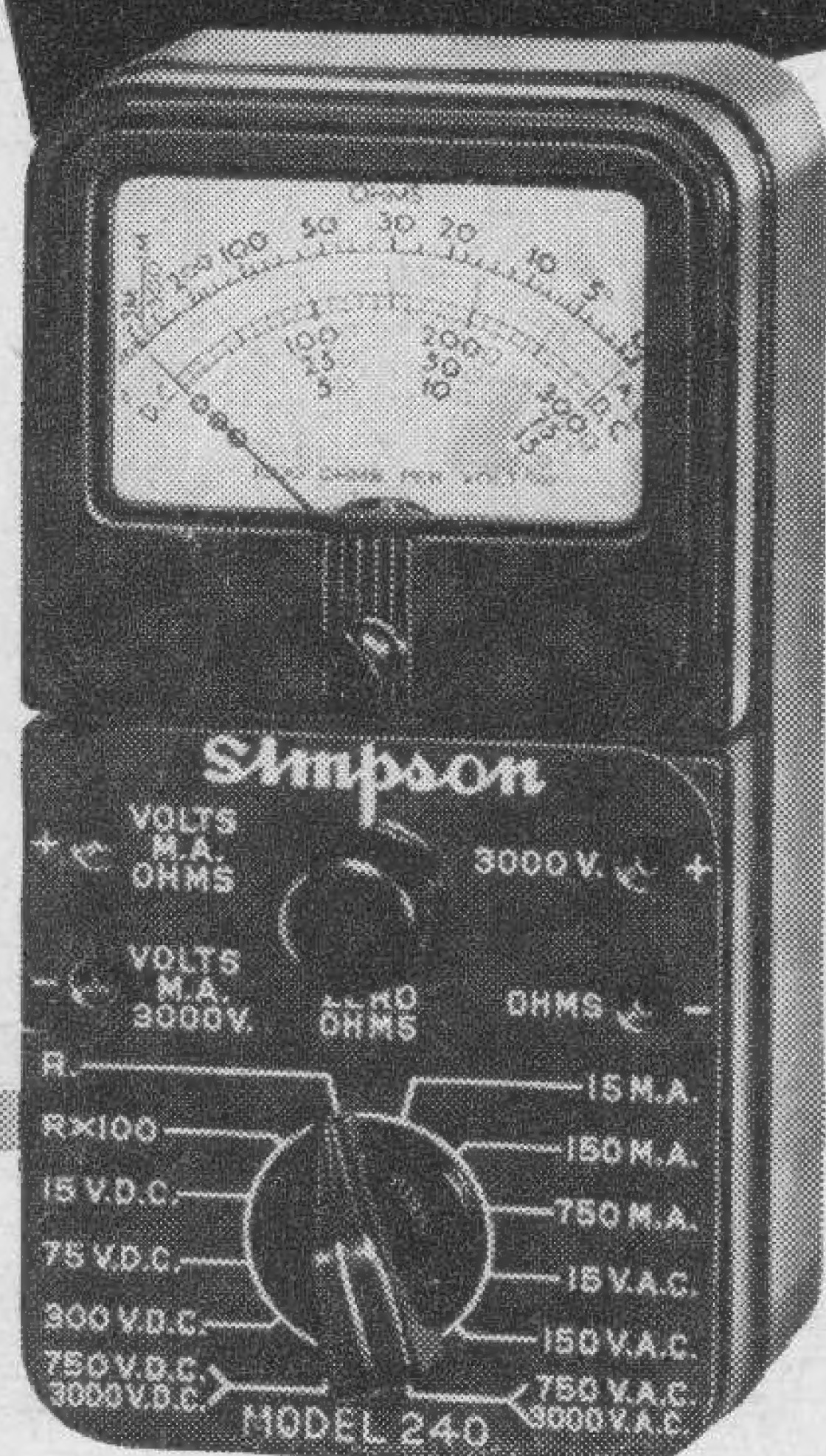


**"Strate-line"\*** Antennas—Rotators, Conical, Dipole, AM, FM and Auto  
 For better results, insist on C-D antennas.



*W. Ben Wimberly*  
(W9IXD)

well-known amateur says: "For quick, accurate trouble shooting around my ham shack, the Simpson Model 240 Hammeter is indispensable. I've used Simpson equipment for many years."



#### RANGES: Model 240

**AC VOLTS:** 0-15, 150, 750, 3000  
(1000 ohms per volt)

**DC VOLTS:** 0-15, 75, 300, 750, 3000  
(1000 ohms per volt)

**DC MILLIAMPERES:** 0-15, 150, 750

**OHMS:** 0-3000 (center scale 30)  
0-300,000 (center scale 3000)

**ACCURACY:** DC 3%—AC 5%

**SIZE:** 3"x5 $\frac{7}{8}$ "x2 $\frac{1}{2}$ "

**WEIGHT:** 1 $\frac{1}{4}$  lbs.

**SHIPPING WEIGHT:** 2 $\frac{1}{2}$  lbs.

**AMATEUR'S NET PRICE . . . \$24.60**

Leatherette Case . . . . . 5.00



## WORLD FAMOUS SIMPSON HAMMETER IS FIRST WITH RADIO AMATEURS

The famous 240 Hammeter—named by the radio "ham"—is world renowned for its ruggedness and accuracy. It was designed for the additional voltage and sensitivity required in radio testing.

A favorite with "hams" because of its maximum voltage range of 3000 AC or DC, the 240 was the first self-contained pocket portable built expressly to check high voltage and all component parts of transmitters and receivers.



A worthy companion of the Hammeter is the Model 230 volt-ohm-milliammeter, with a maximum voltage of 1000 AC or DC. Its ranges are adequate for most line voltages, for telephone, teletype, and general purpose testing.

#### RANGES: Model 230

**AC VOLTS:** 0-10, 250, 1000 (400 ohms per volt)

**DC VOLTS:** 0-10, 50, 250, 1000 (1000 ohms per volt)

**DC MILLIAMPERES:** 0-10, 50, 250

**OHMS:** 0-1000, 0-100,000

**ACCURACY:** DC 3%—AC 5%

**SIZE:** 3"x5 $\frac{7}{8}$ "x2 $\frac{1}{2}$ "

**WEIGHT:** 1 $\frac{1}{4}$  lbs.

**SHIPPING WEIGHT:** 3 lbs.

**AMATEUR'S NET PRICE . . . . . \$23.40**

Leatherette Case . . . . . 5.00

**Simpson**  
INSTRUMENTS THAT STAY ACCURATE

**SIMPSON ELECTRIC COMPANY**

5200-18 WEST KINZIE STREET, CHICAGO 44, ILLINOIS

In Canada: Bach-Simpson Ltd., London, Ontario



# RADIO AMATEUR CALL BOOK

## MAGAZINE

Compiling a publication like the CALL-BOOK represents a highly specialized effort. We make over 50,000 changes a year, listing new calls, changing addresses and making deletions.

If your QTH is not correct or if you know of any that should be changed, just drop us a card and we will do the rest. Your help and suggestions are always appreciated.



W9TRD.

VOLUME 28 NUMBER 1

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**RADIO AMATEUR CALL BOOK**  
(Incorporated)

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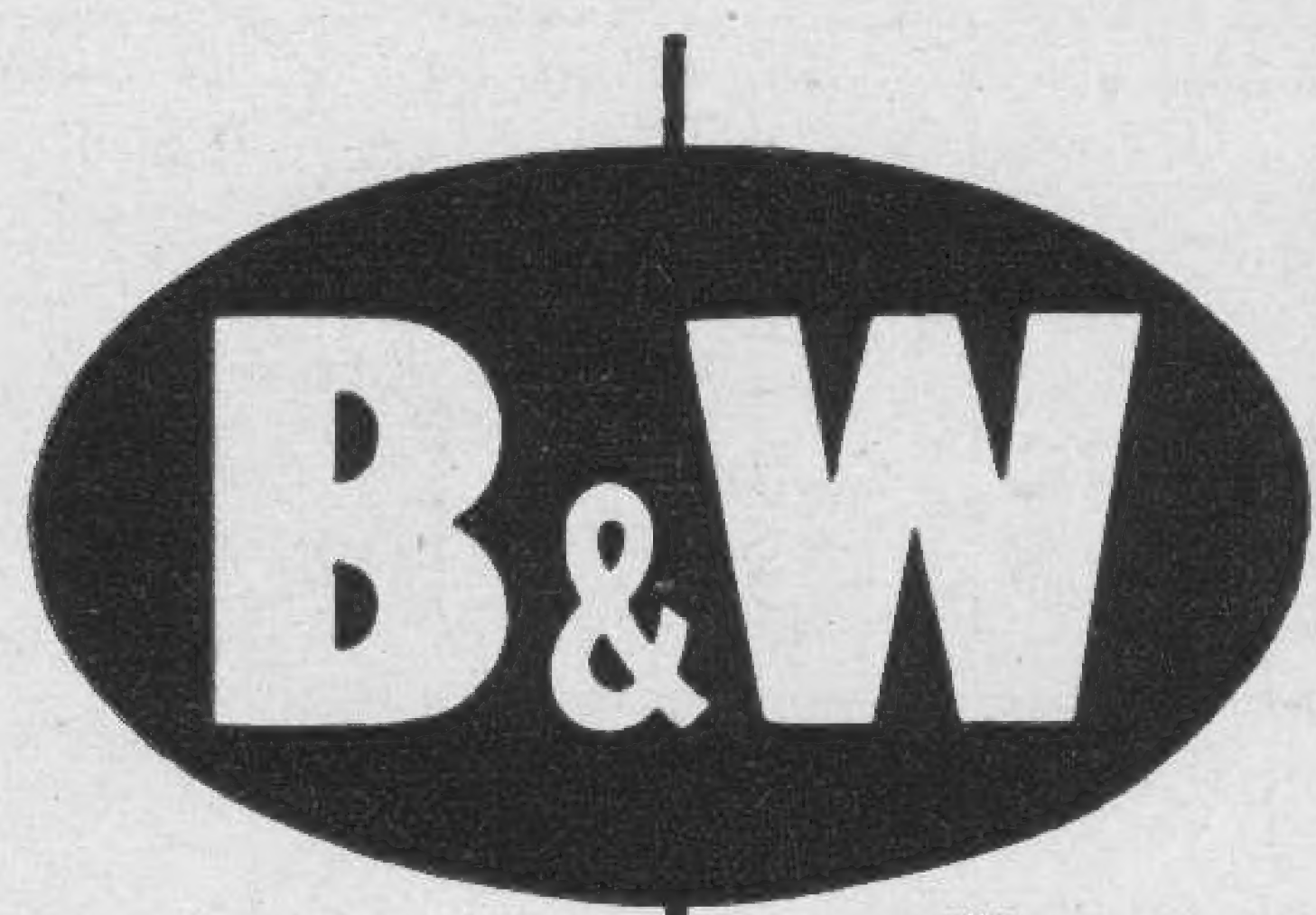
CHARLES O. STIMPSON  
W9TRD

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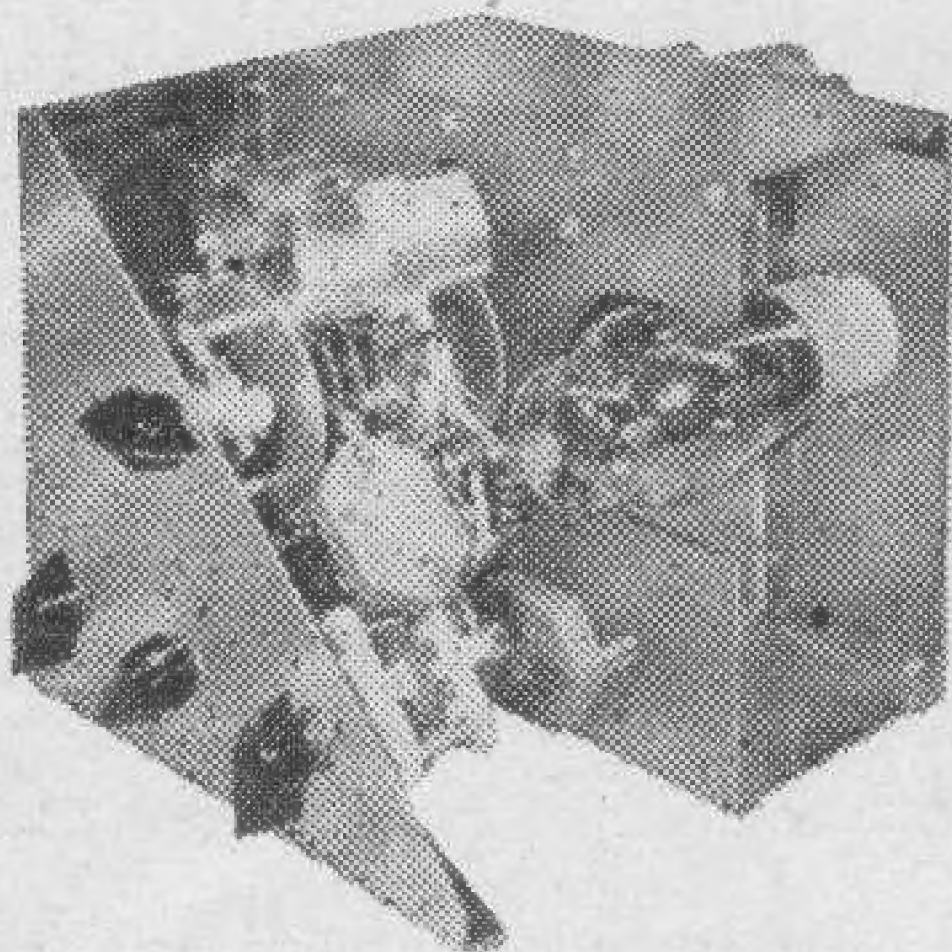


# PIONEERS IN RADIO COMPONENTS *for the Amateur*



From air-wound inductors to variable condensers and matched condenser-coil combinations, B&W has been a step ahead in the development of many types of equipment for the amateur. Faraday Shielded Links, now manufactured by B&W to fit their standard coil series, aid in the reduction of TVI.

**B&W ALL BAND  
FREQUENCY MULTIPLIER**



For the amateur who wants to build his own all-band transmitter, the B&W Frequency Multiplier solves the problem of developing and constructing the proper frequency step-up stages.

Write today for complete data on equipment designed for the Amateur to Dept. RA-60.

## **BARKER & WILLIAMSON, Inc.**

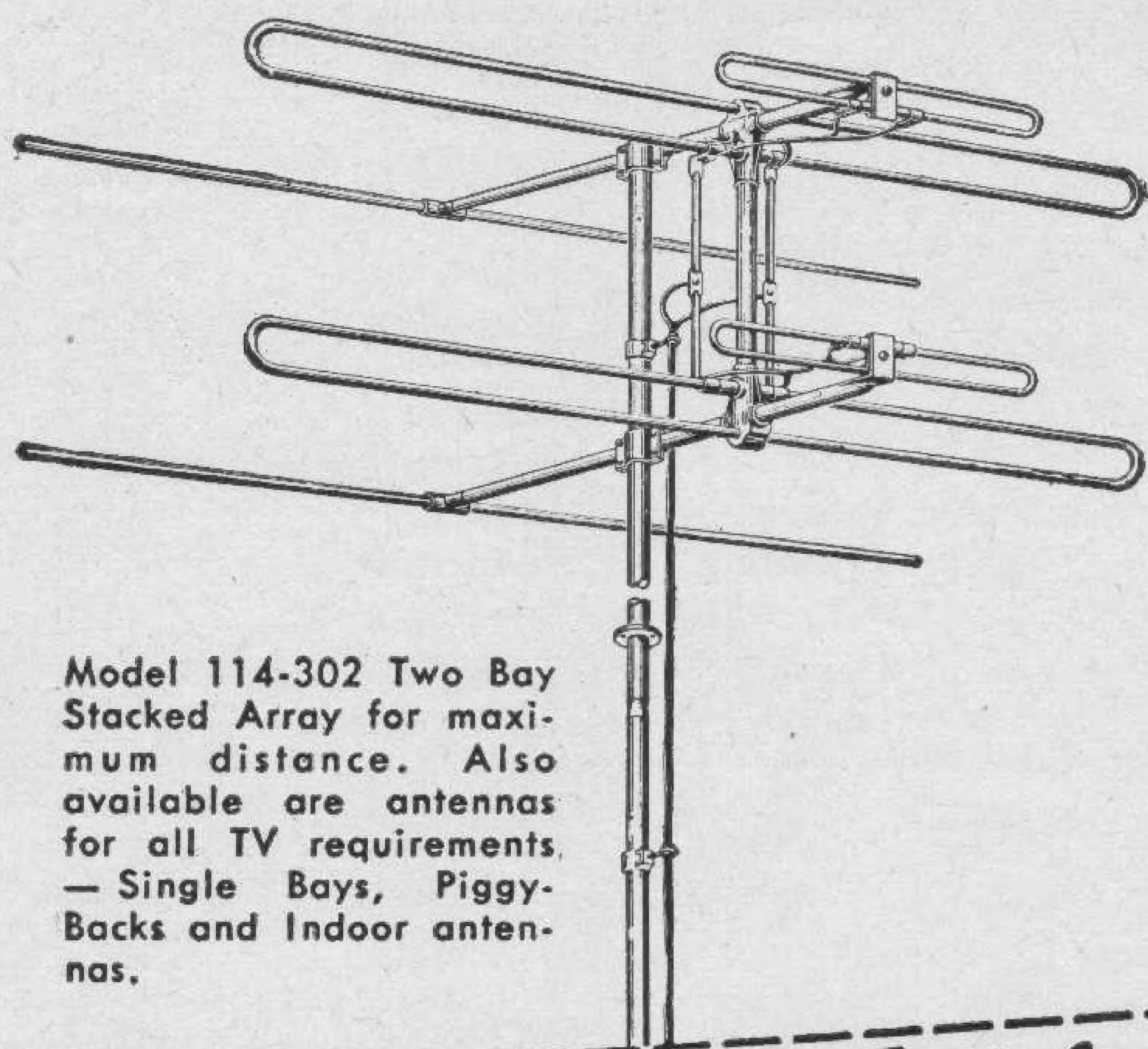
237 Fairfield Avenue, Upper Darby, Penna.



AIR-LINE DISTANCES IN MILES BETWEEN CITIES IN THE UNITED STATES

ATLANTA, GA.	BIRMINGHAM, ALA.	BISMARCK, N. D.	BOSTON, MASS.	BUFFALO, N. Y.	CHARLESTON, W. VA.	CHEYENNE, WYO.	CHICAGO, ILL.	CLEVELAND, OHIO	COLUMBIA, S. C.	DALLAS, TEXAS	DENVER, COLORADO	DES MOINES, IOWA	DETROIT, MICH.	EL PASO, TEXAS	HELENA, MONTANA	HOUSTON, TEXAS	INDIANAPOLIS, IND.	JACKSONVILLE, FLA.	KANSAS CITY, MO.	LITTLE ROCK, ARK.	LOS ANGELES, CALIF.	LOUISVILLE, KY.	MIAMI, FLORIDA	MILWAUKEE, WIS.	MINNEAPOLIS, MINN.	NASHVILLE, TENN.	NEW ORLEANS, LA.	NEW YORK, N. Y.	NORFOLK, VA.	PHILADELPHIA, PA.	PHOENIX, ARIZONA	PITTSBURGH, PA.	ST. LOUIS, MO.	SALT LAKE CITY, UTAH	SAN FRANCISCO, CALIF.	SEATTLE, WASHINGTON	WASHINGTON, D. C.	WILMINGTON, N. C.
140	1244	937	697	353	1229	587	554	194	721	1212	739	596	1291	1697	701	426	285	676	456	1936	319	604	668	907	214	424	748	505	666	1592	521	467	1583	2139	2182	543	371	
BIRMINGHAM, ALA.	140	1174	1052	776	442	1119	578	618	334	581	1095	670	641	1152	1602	567	433	374	579	325	1802	331	665	659	862	182	312	864	638	783	1456	608	400	1466	2013	2082	661	512
BISMARCK, N. D.	1244	1174	1489	1106	1133	440	734	1014	1359	990	531	506	926	1081	534	1211	881	1529	618	943	1267	965	1838	682	384	1030	1297	1396	1430	1367	1095	1127	779	694	1265	1013	1318	1474
BOSTON, MASS.	937	1052	1489	400	622	1735	851	551	791	1551	1769	1159	613	2072	2024	1605	807	1017	1251	1259	2596	826	1255	857	1123	943	1359	188	471	271	2300	483	1038	2099	2699	2493	393	673
BUFFALO, NEW YORK	697	776	1106	400	344	1335	454	173	623	1198	1370	760	216	1692	1640	1286	435	879	861	913	2198	403	1181	458	731	627	1086	292	947	279	1906	178	662	1699	2300	2117	292	598
CHARLESTON, W. VA.	353	442	1133	622	344	1246	400	217	302	935	1256	673	284	1475	1642	984	262	553	701	642	2054	225	870	461	755	322	754	440	311	365	1733	168	465	1616	2205	2132	253	350
CHEYENNE, WYOMING.	1229	1119	440	1735	1335	1246	891	1199	1390	726	96	583	1125	653	521	947	986	1493	560	813	882	1033	1763	878	642	1032	1131	1604	1556	1556	663	1298	795	371	967	973	1477	1540
CHICAGO, ILLINOIS	587	578	734	851	454	891	308	652	803	920	309	238	1252	1248	940	165	863	414	552	1745	269	1188	81	355	397	833	713	699	666	1453	410	262	1260	1858	1737	597	745	
CLEVELAND, OHIO	554	618	1014	551	173	217	1199	308	518	1025	1227	617	90	1525	1541	1114	263	770	700	740	2049	311	1087	335	630	459	924	405	432	360	1749	115	492	1568	2166	2026	306	541
COLUMBIA, S. C.	194	334	1359	791	623	302	1390	652	518	914	1380	863	585	1484	1837	891	489	256	830	644	2123	395	569	726	998	358	599	605	332	523	1781	448	603	1751	2317	2326	405	178
DALLAS, TEXAS	721	581	990	1551	1198	935	726	803	1025	914	663	632	999	572	1247	225	763	908	451	293	1240	726	1111	857	862	617	443	1374	1196	1299	887	1070	547	999	1483	1681	1185	1091
DENVER, COLORADO	1212	1095	531	1769	1370	1256	96	920	1227	1380	663	610	1156	557	591	879	1000	1467	558	780	831	1038	1726	914	700	1023	1082	1631	1566	1579	586	1320	796	371	949	1021	1494	1537
DES MOINES, IOWA	739	670	506	1159	760	673	583	309	617	863	632	610	546	983	977	821	411	1023	180	478	1438	476	1333	309	235	525	827	1022	983	973	1155	715	273	953	1550	1467	896	993
DETROIT, MICHIGAN	596	641	926	613	216	284	1125	238	90	585	999	1156	546	1479	1455	1105	240	831	645	723	1983	316	1152	252	543	470	939	482	522	443	1690	205	455	1492	2091	1938	396	623
EL PASO, TEXAS	1291	1152	1081	2072	1692	1475	653	1252	1525	1484	572	557	983	1479	1065	676	1264	1473	839	847	701	1254	1643	1279	1157	1169	983	1905	1755	1836	346	1590	1034	689	995	1376	1728	1661
HELENA, MONTANA	1697	1602	534	2024	1640	1642	521	1248	1541	1837	1247	591	977	1455	1065	1467	1382	1973	1023	1315	924	1453	2260	1206	912	1488	1646	1929	1947	1897	907	1652	1236	403	807	490	1842	1969
HOUSTON, TEXAS	701	567	1211	1605	1286	984	947	940	1114	891	225	879	821	1105	676	1467	865	821	644	388	1374	803	968	1005	1056	665	318	1420	1204	1341	1017	1137	679	1200	1645	1891	1220	1066
INDIANAPOLIS, IND.	426	433	881	807	435	262	986	165	263	489	763	1000	411	240	1264	1382	865	699	453	483	1809	107	1024	243	511	251	712	646	573	585	1499	330	231	1356	1949	1872	494	593
JACKSONVILLE, FLA.	285	374	1529	1017	879	553	1493	863	770	256	908	1467	1023	831	1473	1973	821	699	950	690	2147	594	326	942	1191	499	504	838	546	758	1794	703	751	1837	2374	2455	647	346
KANSAS CITY, MISSOURI	676	579	618	1251	861	701	560	414	700	830	451	558	180	645	839	1023	644	453	950	325	1356	480	1241	443	413	473	680	1097	1009	1038	1049	781	238	925	1506	1506	945	981
LITTLE ROCK, ARK.	456	325	943	1259	913	642	813	552	740	644	293	780	478	723	847	1315	388	483	690	325	1480	435	949	618	708	325	355	1081	909	1007	1137	779	291	1148	1688	1785	892	818
LOS ANGELES, CALIF.	1936	1802	1267	2596	2198	2054	882	1745	2049	2123	1240	831	1438	1983	701	924	1374	1809	2147	1356	1480	1829	2339	1744	1524	1780	1673	2451	2355	2394	357	2136	1589	579	347	959	2300	2294
LOUISVILLE, KY.	319	331	965	826	483	225	1033	269	311	395	726	1038	476	316	1254	1453	803	107	594	480	435	1829	919	349	605	154	623	652	529	582	1508	344	242	1402	1986	1943	476	516
MIAMI, FLORIDA	604	665	1838	1255	1181	870	1763	1188	1087	569	1111	1726	1333	1152	1643	2260	968	1024	326	1241	949	2339	919	1267	1511	815	669	1092	797	1019	1982	1010	1061	2089	2594	2734	923	598
MILWAUKEE, WIS.	668	659	682	857	458	461	878	81	335	726	357	914	309	252	1279	1206	1005	243	942	443	618	1744	349	1267	299	478	910	733	749	694	1464	446	327	1242	1842	1692	637	810
MINNEAPOLIS, MINN.	907	862	384	1123	731	755	642	355	630	998	862	700	235	543	1157	912	1056	511	1191	413	708	1524	605	1511	299	697	1051	1018	1047	985	1280	743	466	987	1584	1395	934	1100
NASHVILLE, TENN.	214	182	1030	943	627	322	1032	397	459	358	617	1023	525	470	1169	1488	665	251	499	473	325	1780	154	815	478	697	469	761	586	685	1446	472	254	1393	1963	1975	569	517
NEW ORLEANS, LA.	424	312	1297	1359	1086	754	1131	833	924	599	443	1082	827	939	983	1646	318	712	504	680	355	1673	623	669	910	1051	469	1171	926	1089	1316	919	598	1434	1926	2101	966	769
NEW YORK, N. Y.	748	864	1396	188	292	440	1604	713	405	605	1374	1631	1022	482	1905	1929	1420	646	838	1097	1081	2451	652	1092	733	1018	761	1171	296	83	2145	317	875	1972	2571	2408	205	499
NORFOLK, VA.	505	638	1430	471	947	311	1556	699	432	332	1196	1566	983	522	1755	1947	1204	573	546	1009	909	2355	529	797	749	1047	586	926	296	222	2028	318	771	1927	2515	2436	146	203
PHILADELPHIA, PA.	666	783	1367	271	279	365	1556	666	360	523	1299	1579	973	443	1836	1897	1341	585	758	1038	1007	2394	582	1019	694	985	685	1089	83	222	2083	259	811	1925	2523	2380	123	423
PHOENIX, ARIZONA	1592	1456	1095	2300	1906	1733	663	1453	1749	1781	887	586	1155	1690	346	907	1017	1499	1794	1049	1137	357	1508	1982	1464	1280	1446	1316	2145	2028	2083	1828	1272	504	653	1114	1983	1954
PITTSBURGH, PA.	521	608	1127	483	178	168	1298	410	115	448	1070	1320	715	205	1590	1652	1137	330	703	781	779	2136	344	1010	446	743	472	919	317	318	259	1828	559	1668	2264	2138	192	442
ST. LOUIS, MO.	467	400	779	1038	662	465	795	262	492	603	547	796	273	455	1034	1236	679	231	751	238	291	1589	242	1061	327	466	254	598	875	771	811	1272	559	1162	1744	1724	712	746
SALT LAKE CITY, UTAH	1583	1466	694	2099	1699	1616	371	1260	1568	1751	999	371	953	1492	689	403	1200	1356	1837	925	1148	579	1402	2089	1242	987	1393	1434	1972	1927	1925	504	1668	1162	600	701	1848	1906
SAN FRANCISCO, CALIF.	2139	2013	1265	2699	2300	2205	967	1858	2166	2317	1483	949	1550	2091	995	807	1645	1949																				





Model 114-302 Two Bay Stacked Array for maximum distance. Also available are antennas for all TV requirements. — Single Bays, Piggy-Backs and Indoor antennas.

# AMPHENOL

## TV AND FM ANTENNAS

All Amphenol antennas are engineered and perfected in our Development Laboratories. They will provide unsurpassed reception of FM and TV signals. They are built of top-quality materials and are of rugged construction to withstand bad weather. These antennas assure long, trouble-free service.

### TWIN LEAD

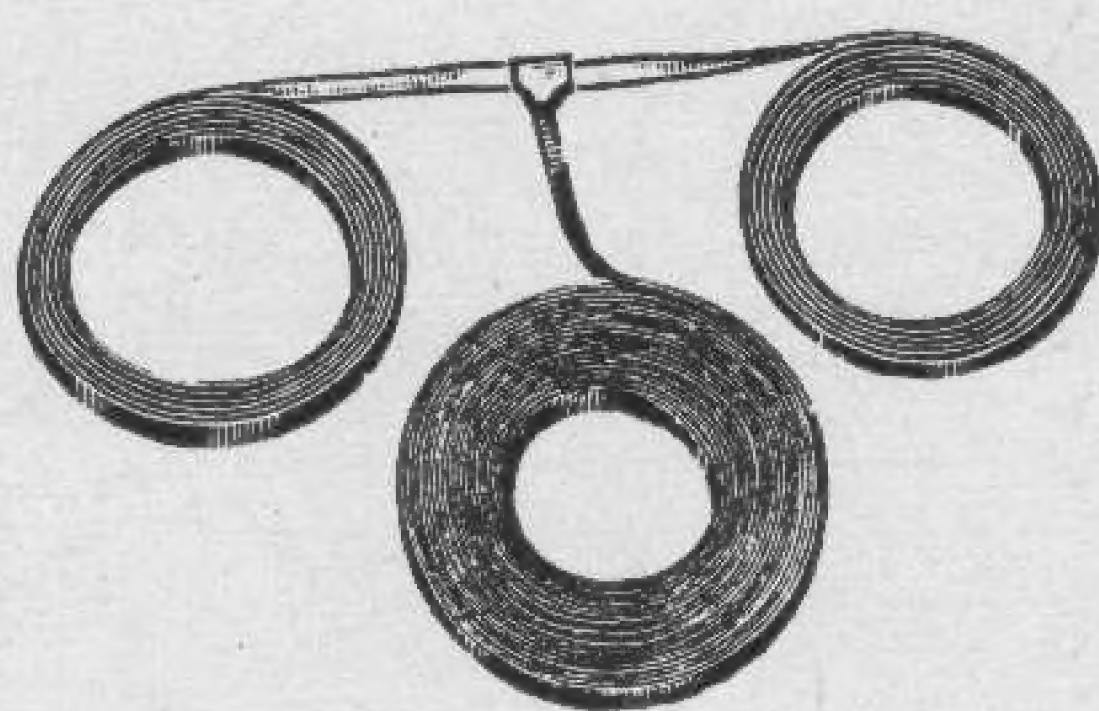
## Folded Dipole

### AMATEUR ANTENNAS

A real DX antenna, cut-to-band, in use by thousands of amateurs

The finest ready-made amateur transmitting antenna ever developed. Ready-cut to the four most popular bands. Broadband characteristics. Excellent for your regular transmitting antenna, as an auxiliary antenna or for portable or field day use.

Amphenol Number	Frequency	Band	Antenna Length
139-813	28 mc	10 Meters	18 feet
139-815	14 mc	20 Meters	35 feet
139-816	7 mc	40 Meters	70 feet
139-817	3.5 mc	80 Meters	135 feet



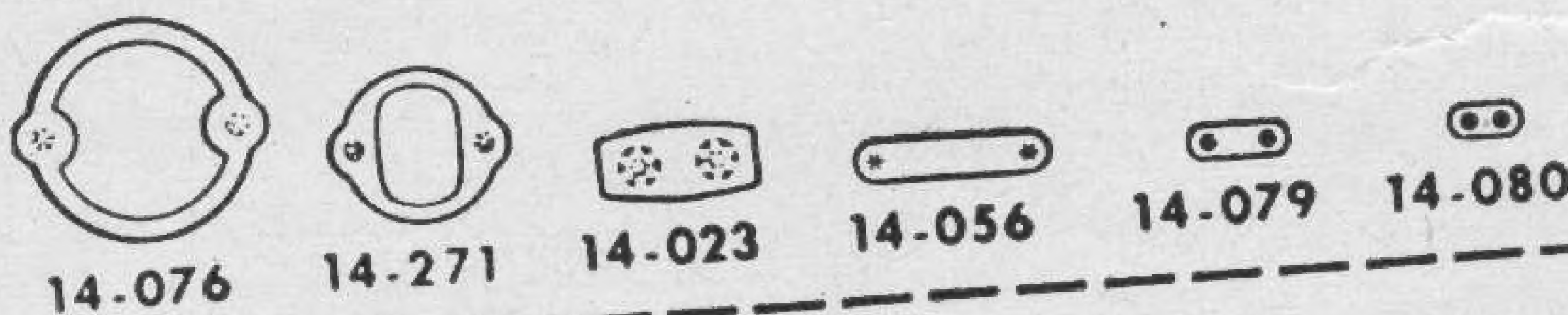
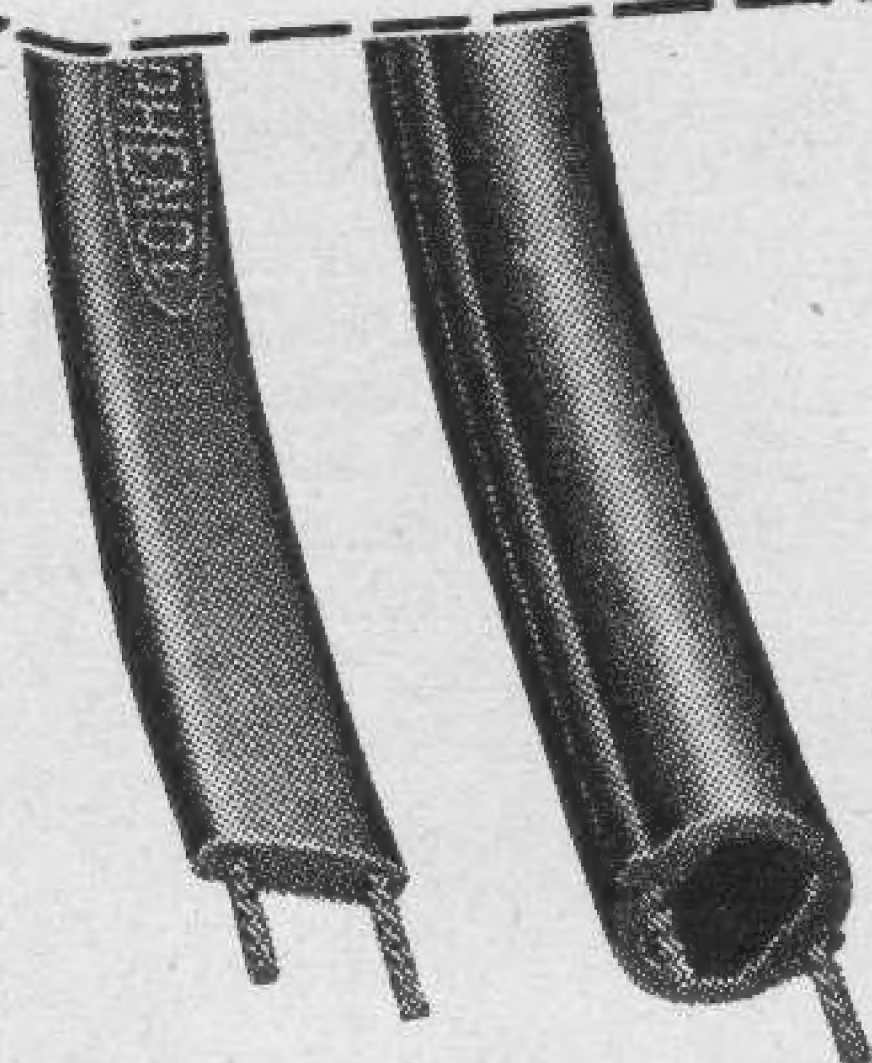
A real DX antenna



## TWIN-LEAD TRANSMISSION LINES

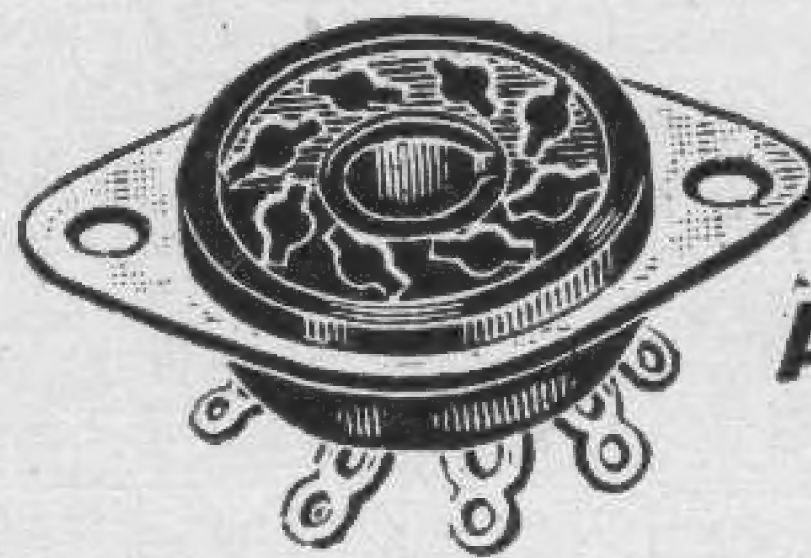
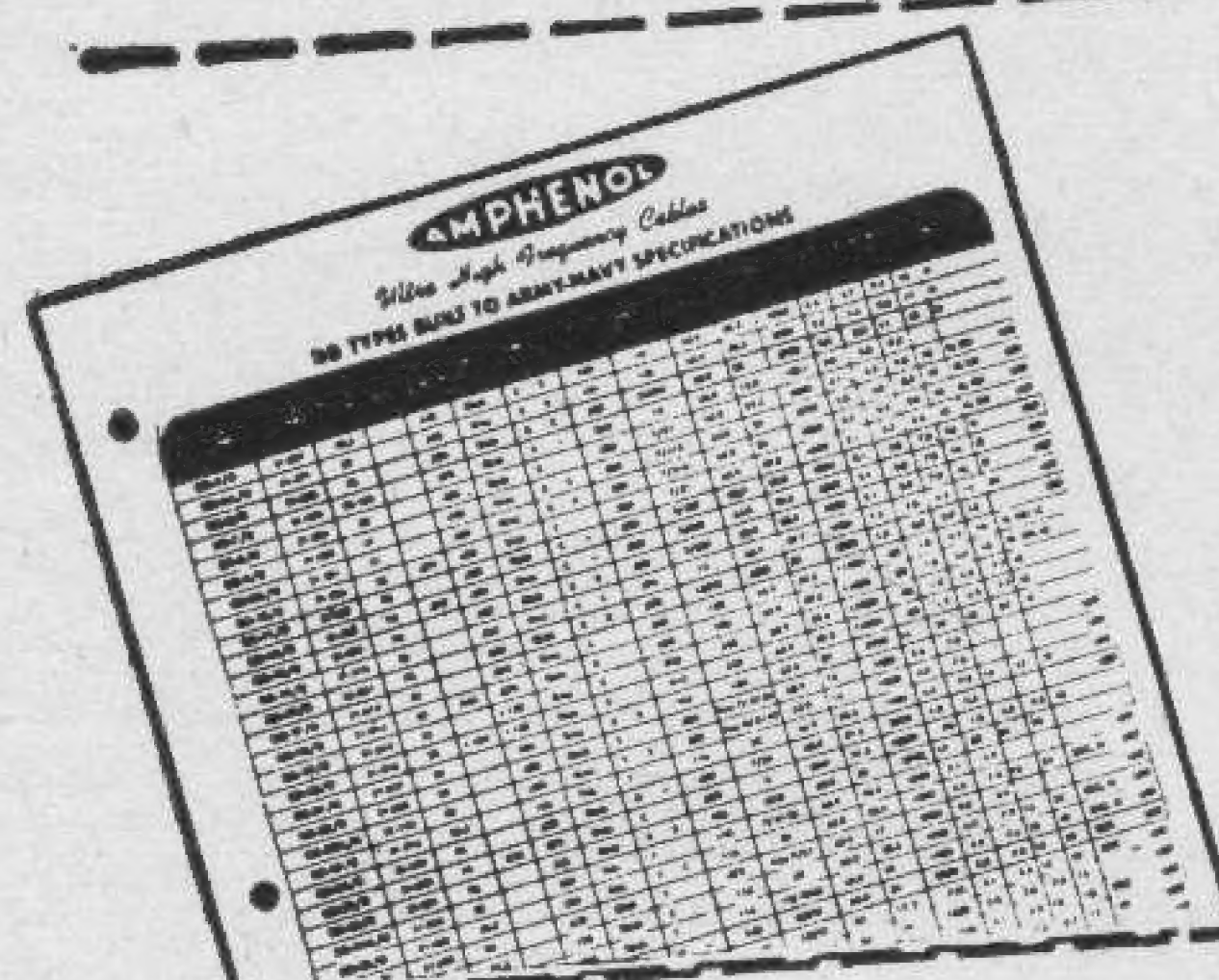
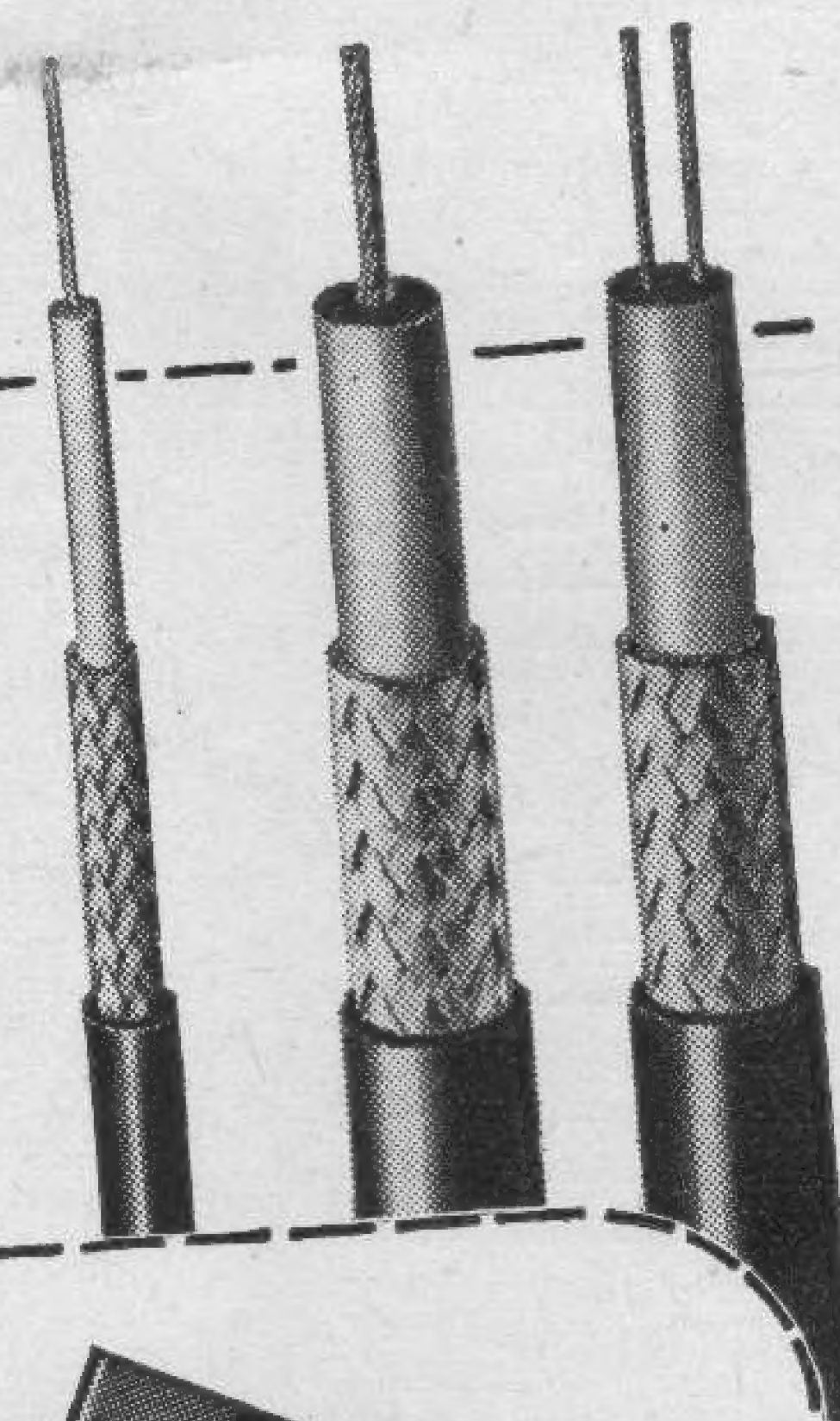
Choice of the serviceman and amateur for receiving and transmitting antennas and transmission lines, Amphenol Twin-Lead is the ideal means of transmitting signals with minimum losses. Durable polyethylene di-

electric resists weather, acids, alkalies, and oils. Remains flexible at — 70°C. For standard FM and TV receiver installations use Receiving Twin-Lead — No. 14-271 for deluxe installations.

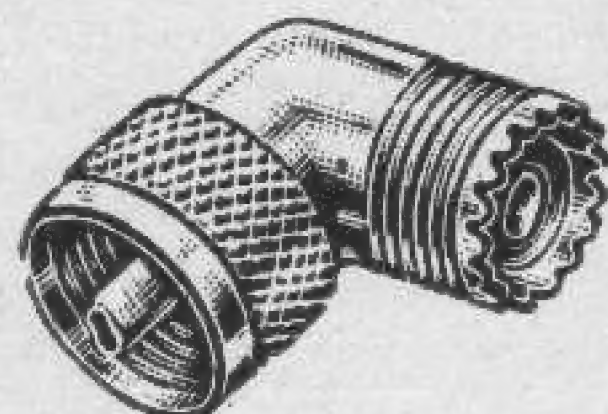


## COAXIAL CABLES

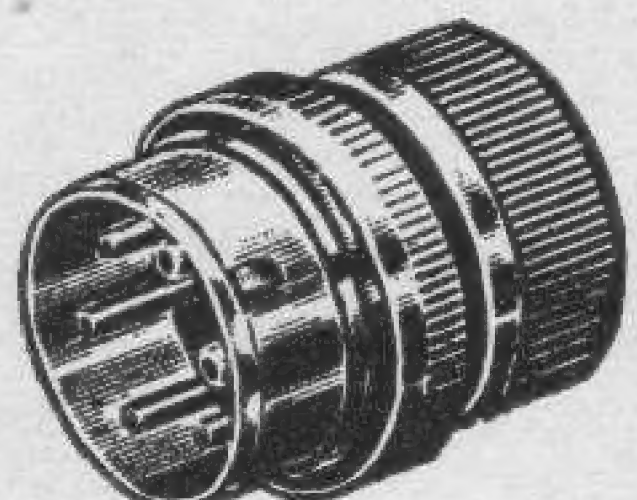
Amphenol Coaxial "RG" cables are produced to standards that surpass Army-Navy specifications. They are ideal for a myriad of electronic application. Outer jackets are of tough, resistant vinyl, non-hygroscopic and impervious to acids, alkalies, oils and gasoline. Charts showing characteristics and dimensions are available upon request.



### RADIO SOCKETS AND CONNECTORS



### AN CONNECTORS



### RF CONNECTORS

Amphenol manufactures many thousands of items for radio, electronic and electrical uses. The line includes radio sockets and connectors, "AN" connectors for power and control circuits, Radio Frequency cables and connectors, Tube Sockets for all types of industrial applications, plastics for electronic usage.

Catalogs of Amphenol products will be mailed upon request. To keep up-to-date on electronic and electrical developments, be sure your name is on the mailing list to receive our monthly magazine, The Amphenol Engineering News.



# AMPHENOL

## AMERICAN PHENOLIC CORPORATION

1830 SO. 54TH AVENUE • CHICAGO 50, ILLINOIS



# PREFIXES—BY COUNTRIES

The following countries listed in alphabetical order by country show international radio amateur prefixes. Characters in ( ) designate the continent and zone in which the country is located. Abbreviations are as follows: A—Asia, AF—Africa, E—Europe, NA—North America, O—Oceania, SA—South America.

ADEN	(A-21)	VS9	GUADELOUPE	(NA-8)	FG8	RHODESIA, NORTHERN	(AF-36)	VQ2
AFGHANISTAN	(A-21)	YA	GUAM	(O-27)	KG6	RHODESIA, SOUTHERN	(AF-38)	ZE
ALASKA	(NA-1)	KL7	GUANTANAMO BAY	(NA-8)	KG4	ROUMANIA	(E-20)	YO
ALBANIA	(E-15)	ZA	GUATEMALA	(NA-7)	TG	RYUKYU ISLANDS	(A25)	KR6
ALGERIA	(AF-33)	FA	GUIANA, BRITISH	(SA-9)	VP3			
ANDORRA	(E-14)	PX	GUIANA, FRENCH	(SA-9)	FY8	SAINT HELENA	(AF-36)	ZD7
ANGLO-EGYPTIAN SUDAN	(AF-34)	ST	GUIANA, NETHERLANDS	(SA-9)	PZ	SAIPAN ISLAND	(O-27)	KG6S
ANGOLA	(AF-36)	CR6	GUINEA, PORTUGUESE	(AF-35)	CR5	SALVADOR	(NA-7)	YS
ARGENTINA	(SA-13)	LU				SAMOA (U.S.)	(O-32)	KS6
ASCENSION ISLAND	(AF-36)	ZD8				SAMOA (Western)	(O-32)	ZM
AUSTRALIA	(O-29 & 30)	VK	HAITI	(NA-8)	HH	SARAWAK	(O-28)	VS5
AUSTRIA	(E-15)	OE	HAWAIIAN ISLANDS	(O-31)	KH6	SAUDI ARABIA	(A-21)	HZ
AZORES ISLANDS	(E-14)	CT2	HONDURAS	(NA-7)	HR	SCOTLAND	(E-14)	GM
			HONG KONG	(A-24)	VS6	SEYCHELLES	(AF-39)	VQ9
			HOWLAND ISLAND	(O-31)	KB6	SIAM	(A-26)	HS
			HUNGARY	(E-15)	HA	SIERRA LEONE	(AF-35)	ZD1
BAHAMA ISLANDS	(NA-8)	VP7				SIKKIM	(A-22)	AC3
BAHREIN ISLANDS	(AF-21)	MP4	ICELAND	(E-40)	TF	SOCOTRA ISLAND	(AF-37)	VS9
BAKER ISLAND	(O-31)	KB6	INDIA	(A-21)	VU	SOLOMON ISLANDS	(O-28)	VR4
BALEARIC ISLANDS	(E-14)	EA6	IRAN	(A-21)	EP, EQ	SOMALILAND, British	(AF-37)	VQ6
BARBADOS	(NA-8)	VP6	IRAQ	(A-21)	YI	SOMALILAND, French	(AF-37)	FL8
BASUTOLAND	(AF-38)	ZS4	IRELAND	(E-14)	EI	SOMALILAND, Italian	(AF-37)	MD4
BELGIAN CONGO	(AF-36)	OQ	ISLE OF MAN	(E-14)	GD	SOUTH GEORGIA	(SA-13)	VP8
BELGIUM	(E-14)	ON	ITALY	(E-15)	I	SOUTH ORKNEY ISLANDS	(SA-13)	VP8
BERMUDA ISLANDS	(NA-5)	VP9	IWO JIMA ISLAND	(O-25)	KG6I	SOUTH SANDWICH ISLANDS	(SA-13)	VP8
BOLIVIA	(SA-10)	CP				SOUTH SHETLAND ISLANDS	(SA-13)	VP8
BORNEO (Br. North)	(O-28)	VS4	JAMAICA	(NA-8)	VP5	SOUTHWEST AFRICA	(AF-38)	ZS3
BORNEO (Neth. Indies)	(O-28)	PK5	JAN MAYEN ISLAND	(E-40)	OY			
BRAZIL	(SA-11)	PY	JAPAN	(A-25)	JA			
BRITISH HONDURAS	(NA-7)	VP1	JARVIS ISLAND	(O-31)	KP6			
BRUNEI	(O-28)	VS5	JAVA	(O-28)	PK1, 2, 3			
BULGARIA	(E-20)	LZ	JOHNSTON ISLAND	(O-31)	KJ6			
BURMA	(A-26)	XZ						
CAMEROONS, British	(AF-36)	ZD2	KENYA	(AF-37)	VQ4	SOVIET UNION:		
CAMEROONS, French	(AF-36)	FE8	KOREA	(A-25)	HL1	EUROPEAN RUSSIAN SOCIALIST		
CANADA	(NA-1 to 5)	VE	LABRADOR	(NA-2)	VO	FEDERATED SOVIET REP.	(E-16)	UA1, 3, 4, 6
CANAL ZONE	(NA-7)	KZ5	LACCADIVE ISLANDS	(A-22)	VU4	ASIATIC RUSSIAN S.F.S.R.	(A-18, 19)	UA9, 6
CANARY ISLANDS	(AF-33)	EA8	LEBANON REPUBLIC	(A-20)	AR8	UKRAINE	(E-16)	UB5
CANTON ISLAND	(O-31)	KB6	LEEWARD ISLANDS	(NA-8)	VP2	WHITE RUSSIAN S.S.R.	(E-16)	UC
CAPE VERDE ISLANDS	(AF-35)	CR4	LIBERIA	(AF-35)	EL	AZERBAIJAN	(A-21)	UD6
CAROLINE ISLANDS	(O-27)	KC6	LIBYA	(AF-34)	TR	GEORGIA	(A-21)	UF6
CAYMAN ISLANDS	(NA-8)	VP5	LIECHTENSTEIN	(E-14)	HE1	ARMENIA	(A-21)	UG6
CELEBES	(O-28)	PK6	LITTLE AMERICA	(SA-13)	KC4	TURKOMAN	(A-17)	UH8
CEYLON	(A-22)	VS7	LUXEMBOURG	(E-14)	LX	UZBEK	(A-17)	UI8
CHAGOS ISLANDS	(AF-39)	VQ8				TADZHIK	(A-17)	UJ8
CHANNEL ISLANDS	(E-14)	GC	MACAU	(A-24)	CR9	KAZAKH	(A-17)	UL7
CHILE	(SA-12)	CE	MADAGASCAR	(AF-39)	FB8	KIRGHIZ	(A-17)	UM8
CHINA	(A-23 & 24)	C	MADEIRA ISLANDS	(AF-33)	CT3	KARELO-FINNISH REP.	(E-16)	UN1
CHRISTMAS ISLAND	(O-31)	ZC3	MALAYA	(A-28)	VS1, 2	MOLDAVIA	(E-16)	UO5
COCOS ISLAND	(NA-7)	TI	MALDIVE ISLANDS	(A-22)	VS9	LITHUANIA	(E-15)	UP
COCOS ISLANDS	(O-29)	ZC2	MALTA	(E-15)	ZB1	LATVIA	(E-15)	UQ
COLOMBIA	(SA-9)	HK	MARIANAS ISLANDS	(O-27)	KG6	ESTONIA	(E-15)	UR
COOK ISLANDS	(O-32)	ZKI	MARSHALL ISLANDS	(O-31)	KX6	SPAIN	(E-14)	EA
CORSICA	(E-15)	FC	MARTINIQUE	(NA-8)	FM8	SUMATRA	(O-28)	PK4
COSTA RICA	(NA-7)	TI	MAURITIUS	(AF-39)	VQ8	SWAN ISLAND	(NA-7)	KS4
CRETE	(E-20)	SV	MEXICO	(NA-6)	XE	SWEDEN	(E-14)	SM
CUBA	(NA-8)	CM, CO	MIDWAY ISLAND	(O-31)	KM6	SWITZERLAND	(E-14)	HB
CYPRUS	(A-20)	MD7 & ZC4	MIQUELON ISLAND	(NA-5)	FP8	SYRIA	(A-20)	YK
CZECHOSLOVAKIA	(E-15)	OK	MONACO	(A-14)	CZ			
			MOROCCO, French	(AF-33)	CN	TANGANYIKA	(AF-37)	VQ3
			MOROCCO, Spanish	(AF-33)	EA9	TANGIER ZONE	(AF-33)	EK
			MOZAMBIQUE	(AF-37)	CR7	TANNU TUVA	(A-23)	TT
						TIBET	(A-23)	AC4
DENMARK	(E-14)	OZ	NETHERLANDS	(E-14)	PA	TIMOR, Portuguese	(O-28)	CR10
DODECANESE ISLANDS	(E-20)	SV5	NETHERLAND W. INDIES	(SA-9)	PJ	TINIAN ISLAND	(O-27)	KG6T
DOMINICAN REPUBLIC	(NA-8)	HI	NEW CALEDONIA	(O-32)	FK8	TOGOLAND, French	(AF-35)	FD8
			NEWFOUNDLAND	(NA-5)	VO	TONGA (Friendly) ISLANDS	(O-32)	VR5
ECUADOR	(SA-10)	HC	NEW GUINEA, Netherlands	(O-28)	PK6	TRANSJORDAN	(A-20)	ZC1
EGYPT	(AF-34)	SU	NEW GUINEA, Territory of	(O-28)	VK9	TRIESTE	(E-15)	AG2 & MF2
ELLICE ISLANDS	(O-31)	VR1	NEW HEBRIDES	(O-32)	FU8, YJ	TRINIDAD & TOBAGO	(SA-9)	VP4
ENGLAND	(E-14)	G	NEW ZEALAND	(O-32)	ZL	TRISTAN da CUNHA & COUGH ISLAND	(AF-38)	ZD9
ERITREA	(AF-37)	MD3 & M13	NICARAGUA	(NA-7)	YN	TUNISIA	(AF-33)	FT4
ETHIOPIA	(AF-37)	ET	NIGERIA	(AF-35)	ZD2	TURKEY	(A-20)	TA
			NIUE	(O-32)	ZK2	TURKS & CAICOS ISLANDS	(NA-8)	VP5
FAEROES, The	(E-14)	OY	NORTHERN IRELAND	(E-14)	GI			
FALKLAND ISLANDS	(SA-13)	VP8	NORWAY	(E-14)	LA			
FANNING ISLAND	(O-31)	VR3	NYASALAND	(AF-37)	ZD6			
FIJI ISLANDS	(O-32)	VR2				UGANDA	(AF-37)	VQ5
FINLAND	(E-15)	OH	OKINAWA	(A-25)	KR6	UNION OF SOUTH AFRICA	(AF-38)	ZS
FRANCE	(E-14)	F	OMAN	(A-21)	MP4	UNITED STATES of AMERICA	(NA-3, 4, 5)	W, K
FR. EQUATORIAL AFRICA	(AF-36)	FQ8	PAKISTAN	(A-21, 22)	AP	URUGUAY	(SA-13)	CX
FRENCH INDIA	(A-22)	FN	PANAMA	(NA-7)	HP			
FRENCH INDO-CHINA	(A-26)	F18	PAPUA TERRITORY	(O-28)	VK9	VATICAN CITY	(E-15)	HV
FRENCH OCEANIA	(O-32)	FO8	PARAGUAY	(SA-11)	ZP	VENEZUELA	(SA-9)	YV
FRENCH WEST AFRICA	(AF-35)	FF8	PERU	(SA-10)	OA	VIRGIN ISLANDS	(NA-8)	KV4
			PHILIPPINE ISLANDS	(O-27)	DU			
GAMBIA	(AF-35)	ZD3	PITCAIRN ISLAND	(O-32)	VR6	WAKE ISLAND	(O-31)	KW6
GERMANY	(E-14)	DL	POLAND	(E-15)	SP	WALES	(E-14)	GW
GIBRALTAR	(E-14)	ZB2	PORTUGAL	(E-14)	CT1	WINDWARD ISLANDS	(NA-8)	VP2
GILBERT ISLANDS	(O-31)	VR1	PUERTO RICO	(NA-8)	KP4			
GOA (Portuguese India)	(A-22)	CR8	REUNION ISLAND	(AF-39)	FR8	YUGOSLAVIA	(E-15)	YT, YU
GOLD COAST	(AF-35)	ZD4				ZANZIBAR	(AF-37)	VQ1
GREECE	(E-20)	SV						
GREENLAND	(NA-40)	OX						



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# POSTAL INFORMATION

The following table shows the postal rates for QSL cards, first class letters and air mail to the United States Possessions and foreign countries. There is on sale at Government Post Offices, an air-letter sheet which folds into the form of an envelope, with printed postage stamp and air mail markings. Air-letter sheets are sold for ten cents each and may be sent to all foreign countries. No enclosures are permitted. Air-letter sheets may not be registered. The first class rates show the rate for the first ounce. Add three cents each for each additional ounce or fraction. The air mail rates are for each half ounce except where indicated.

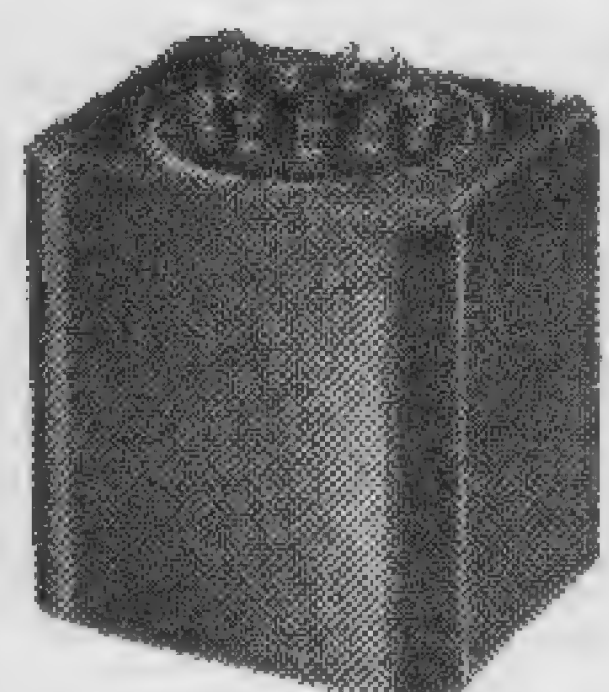
COUNTRY	QSL cards	First class	Air mail	COUNTRY	QSL cards	First class	Air mail	COUNTRY	QSL cards	First class	Air mail
ADEN	\$.03	\$.05	\$.25	FRENCH OCEANIA	.03	.05	.25	NORWAY	.03	.05	.15
AFGHANISTAN	.03	.05	.25	FRENCH SOMALILAND	.03	.05	.25	NYASALAND	.03	.05	.25
ALASKA	.01	.03	.06*	FRENCH SUDAN	.03	.05	.25	OKINAWA	.03	.05	.25
ALBANIA	.03	.05	.15	FRENCH TOGOLAND	.03	.05	.25	PAKISTAN	.03	.05	.25
ALGERIA	.03	.05	.15	GAMBIA	.03	.05	.25	PANAMA	.02	.03	.10
ANDORRA	.02	.30	.15	GERMANY	.03	.05	.15	PAPUA	.03	.05	.25
ANGLO-EGYPTIAN SUDAN	.03	.05	.25	GIBRALTAR	.03	.05	.15	PARAGUAY	.02	.03	.10
ANGOLA	.03	.05	.25	GILBERT & ELLICE IS.	.03	.05	.25	PERU	.02	.03	.10
ANGUILLA	.03	.05	.10	GOLD COAST COLONY	.03	.05	.25	PHILIPPINE IS.	.02	.03	.25
ANTIGUA	.03	.05	.10	GREECE	.03	.05	.15	POLAND	.03	.05	.15
ARGENTINA	.02	.03	.10	GRENADA, BWI	.03	.05	.10	PORTUGAL	.03	.05	.15
ARUBA	.03	.05	.10	GRENADINES, BWI	.03	.05	.10	PORT. EAST AFRICA	.03	.05	.25
AUSTRALIA	.03	.05	.25	GUADELOUPE	.03	.05	.10	PORTUGUESE GUINEA	.03	.05	.25
AUSTRIA	.03	.05	.15	GUAM	.01	.03	.06*	PORTUGUESE INDIA	.03	.05	.25
AZORES	.03	.05	.15	GUATEMALA	.02	.03	.10	PORTUGUESE TIMOR	.03	.05	.25
BAHAMAS	.03	.05	.10	HAITI	.02	.03	.10	PORTUGUESE W. AFRICA	.03	.05	.25
BAHREIN ISLANDS	.03	.05	.25	HAWAII	.01	.03	.06*	PUERTO RICO	.01	.03	.06*
BALEARIC ISLANDS	.02	.03	.15	HONDURAS	.02	.03	.10	REDONDA, BWI	.03	.05	.10
BALUCHISTAN	.03	.05	.25	HONG KONG	.03	.05	.25	REUNION ISLAND	.03	.05	.25
BARBADOS	.03	.05	.10	HUNGARY	.03	.05	.15	RIO DE ORO	.02	.03	.25
BARBUDA	.03	.05	.10	ICELAND	.03	.05	.15	ROMANIA	.03	.05	.15
BECHUANALAND	.03	.05	.25	INDIA	.03	.05	.25	RYUKYU ISLANDS	.03	.05	.25
BELGIAN CONGO	.03	.05	.25	INDONESIA	.03	.05	.25	ST CHRISTOPHER, BWI	.03	.05	.10
BELGIUM	.03	.05	.15	IRAN	.03	.05	.25	ST HELENA	.03	.05	.25
BERMUDA	.03	.05	.10	IRAQ	.03	.05	.25	ST KITS, BWI	.03	.05	.10
BOLIVIA	.02	.03	.10	ITALY	.03	.05	.15	ST LUCIA, BWI	.03	.05	.10
BRAZIL	.02	.03	.10	ITALIAN SOMALILAND	.03	.05	.25	ST PIERRE & MIQUELON	.03	.05	.08*
BRITISH CAMEROONS	.03	.05	.25	IVORY COAST	.03	.05	.25	ST VINCENT, BWI	.03	.05	.10
BRITISH GUIANA	.03	.05	.10	JAMAICA	.03	.05	.10	SALVADOR	.02	.03	.10
BRITISH HONDURAS	.03	.05	.10	JAPAN	.03	.05	.25	SAMOA (Br.)	.03	.05	.25
BRITISH SOMALILAND	.03	.05	.25	JORDAN	.03	.05	.25	SAN MARINO	.03	.05	.15
BR. VIRGIN ISLANDS	.03	.05	.10	KENYA & UGANDA	.03	.05	.25	SARAWAK	.03	.05	.25
BRUNEI	.03	.05	.25	KOREA	.03	.05	.25	SAUDI ARABIA	.03	.05	.25
BULGARIA	.03	.05	.15	LABUAN	.03	.05	.25	SCOTLAND	.03	.05	.15
BURMA	.03	.05	.25	LATVIA	.03	.05	.15	SENEGAL	.03	.05	.25
CANADA	.02	.03	.06*	LEBANON	.03	.05	.25	SIAM	.03	.05	.25
CANAL ZONE	.01	.03	.06*	LIBERIA	.03	.05	.25	SIERRA LEONE	.03	.05	.25
CANARY ISLANDS	.02	.03	.25	LIBYA	.03	.05	.15	SOLOMON ISLANDS	.03	.05	.25
CANTON ISLAND	.01	.03	.06*	LIECHENSTEIN	.03	.05	.15	SOMALIA	.03	.05	.25
CAPE VERDE ISLANDS	.03	.05	.25	LITHUANIA	.03	.05	.15	SOUTHERN RHODESIA	.03	.05	.25
CEYLON	.03	.05	.25	LUXEMBOURG	.03	.05	.15	SOUTHWEST AFRICA	.03	.05	.25
CHILE	.02	.03	.10	MACAO	.03	.05	.25	SPAIN	.02	.03	.15
CHINA	.03	.05	.25	MADAGASCAR	.03	.05	.25	SPANISH GUINEA	.03	.05	.25
COLOMBIA	.02	.03	.10	MADEIRA ISLANDS	.03	.05	.15	STRAIT SETTLEMENTS	.03	.05	.25
COOK ISLANDS	.03	.05	.25	MALAY STATES	.03	.05	.25	SURINAM	.03	.05	.10
CORSICA	.03	.05	.15	MALTA	.03	.05	.15	SWEDEN	.03	.05	.15
COSTA RICA	.02	.03	.10	MANCHURIA	.03	.05	.25	SWITZERLAND	.03	.05	.15
CUBA	.02	.03	.08	MARTINIQUE	.03	.05	.10	SYRIA	.03	.05	.25
CURACAO	.03	.05	.10	MAURITANIA	.03	.05	.25	TAIWAN (Formosa)	.03	.05	.25
CYPRUS	.03	.05	.25	MAURITIUS	.03	.05	.25	TANGANYIKA	.03	.05	.25
CYRENAICA	.03	.05	.15	MEXICO	.02	.03	.06*	TIBET	.03	.05	.25
CZECHOSLOVAKIA	.03	.05	.15	MIDWAY ISLAND	.01	.03	.06*	TONGA ISLANDS	.03	.05	.25
DAHOMY	.03	.05	.25	MONACO	.03	.05	.15	TRIESTE	.03	.05	.15
DENMARK	.03	.05	.15	MONTERRAT, BWI	.03	.05	.10	TRINIDAD	.03	.05	.10
DODECANESE IS.	.03	.05	.15	MOROCCO, (Br. & Fr.)	.03	.05	.15	TRIPOLITANIA	.03	.05	.15
DOMINICA	.03	.05	.10	MOROCCO, (Spain)	.02	.03	.15	TRISTAN DA CUNHA	.03	.05	.25
DOMINICAN REPUBLIC	.02	.03	.10	MOZAMBIQUE	.03	.05	.25	TUNISIA	.03	.05	.15
ECUADOR	.02	.03	.10	NAURU ISLAND	.03	.05	.25	TURKEY	.03	.05	.15
EGYPT	.03	.05	.15	NETHERLANDS	.03	.05	.15	TURKS ISLAND	.03	.05	.10
EIRE (Ireland)	.03	.05	.15	NETHERLANDS INDIES	.03	.05	.25	UGANDA	.03	.05	.25
ENGLAND	.03	.05	.15	NEVIS	.03	.05	.10	UNION OF SOUTH AFRICA	.03	.05	.25
ERITREA	.03	.05	.25	NEW CALEDONIA	.03	.05	.25	URUGUAY	.02	.03	.10
ESTONIA	.03	.05	.15	NEWFOUNDLAND	.02	.03	.06*	U.S.S.R.	.03	.05	.15
ETHIOPIA	.03	.05	.25	NEW GUINEA	.03	.05	.25	U. S. VIRGIN IS.	.01	.03	.06*
FALKLAND ISLANDS	.03	.05	.10	NEW HEBRIDES	.03	.05	.25	VATICAN CITY	.03	.05	.15
FAEROES ISLANDS	.03	.05	.15	NEW ZEALAND	.03	.05	.25	VENEZUELA	.02	.03	.10
FIJI ISLANDS	.03	.05	.25	NICARAGUA	.02	.03	.10	WAKE ISLAND	.01	.03	.06*
FINLAND	.03	.05	.15	NIGER	.03	.05	.25	YEMEN	.03	.05	.25
FRANCE	.03	.05	.15	NIGERIA	.03	.05	.25	YUGOSLAVIA	.03	.05	.15
FRENCH CAMEROONS	.03	.05	.25	NORTH BORNEO	.03	.05	.25	ZANZIBAR	.03	.05	.25
FRENCH EQ. AFRICA	.03	.05	.25	NORTHERN IRELAND	.03	.05	.15				
FRENCH GUIANA	.03	.05	.10	NORTHERN RHODESIA	.03	.05	.25				
FRENCH GUINEA	.03	.05	.25								
FRENCH INDO-CHINA	.03	.05	.25								
FRENCH INDIA	.03	.05	.25								

\* rate per ounce.

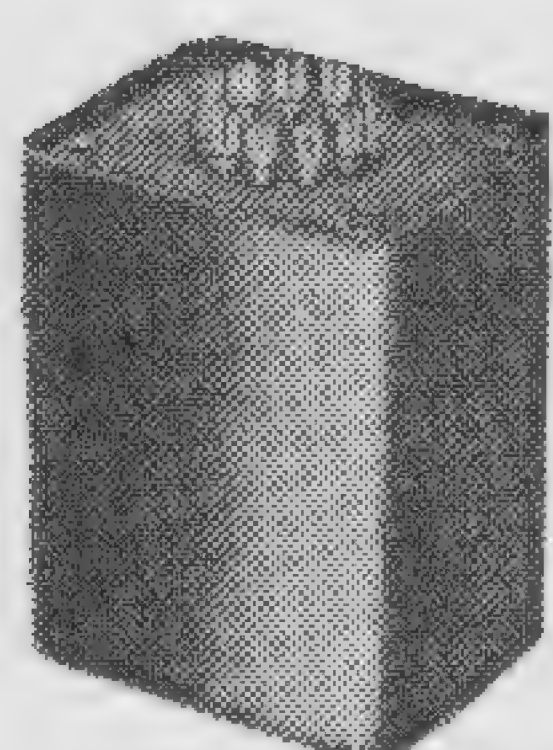




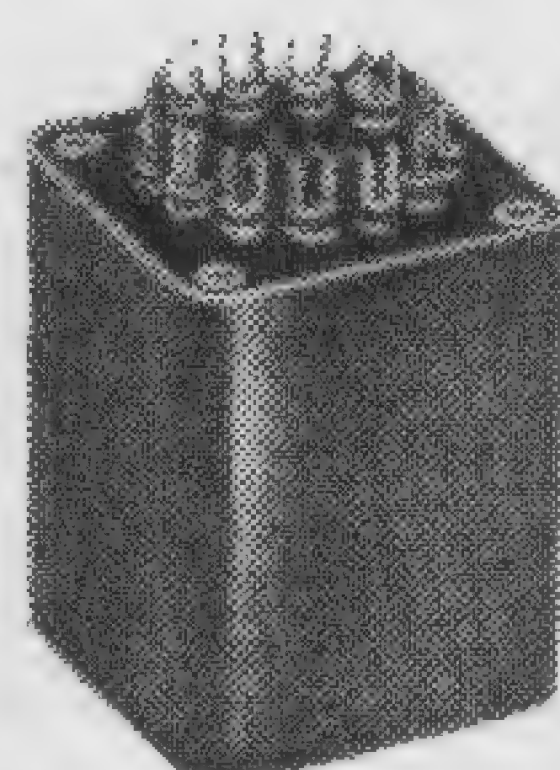
# COMPONENTS FOR EVERY APPLICATION



**LINEAR STANDARD**  
High Fidelity Ideal



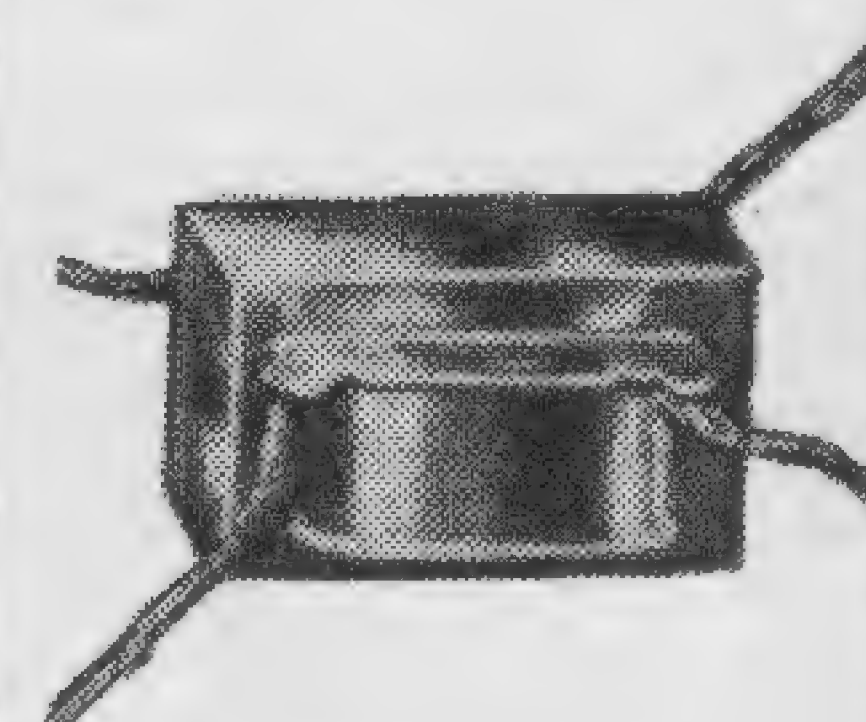
**HIPERM ALLOY**  
High Fidelity . . . Compact



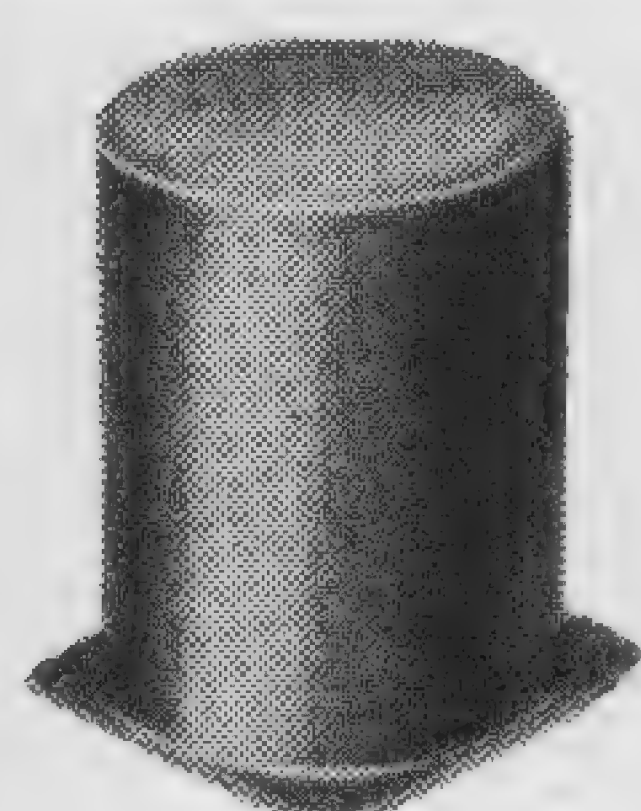
**ULTRA COMPACT**  
Portable . . . High Fidelity



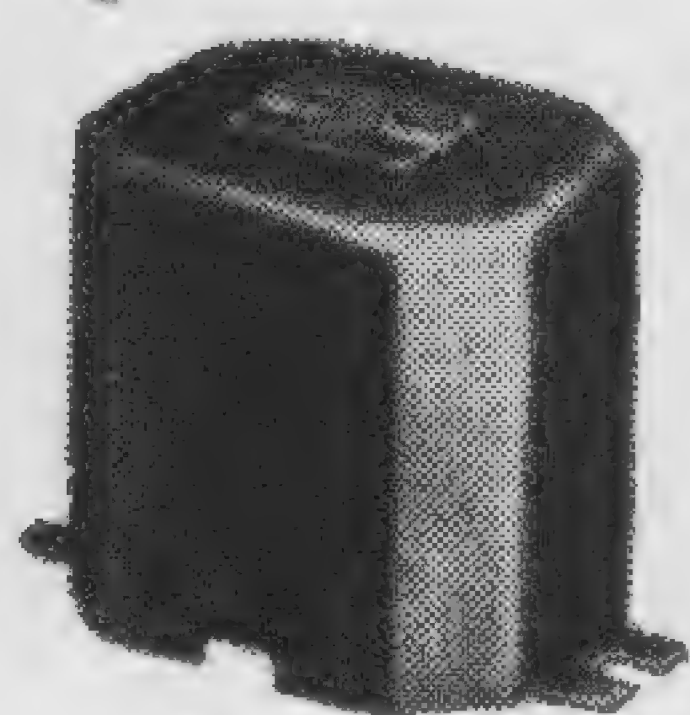
**OUNCER**  
Wide Range . . . 1 ounce



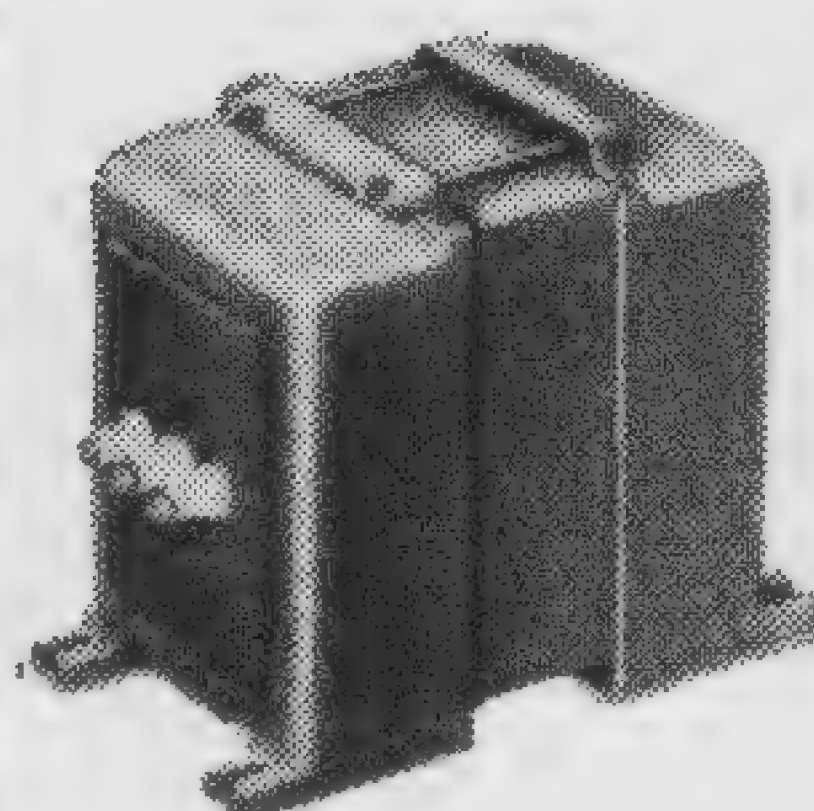
**SUB OUNCER**  
Weight 1/3 ounce



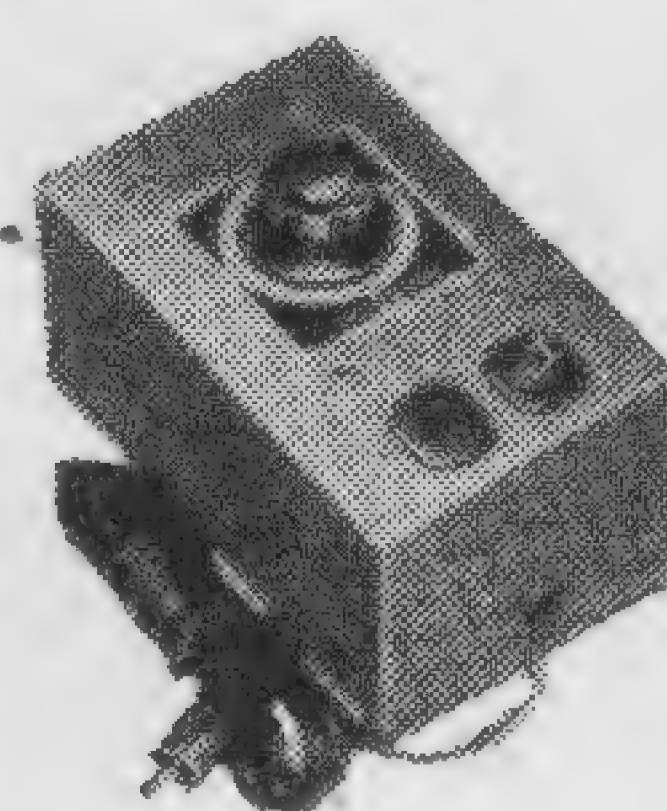
**COMMERCIAL GRADE**  
Industrial Dependability



**SPECIAL SERIES**  
Quality for the "Ham"



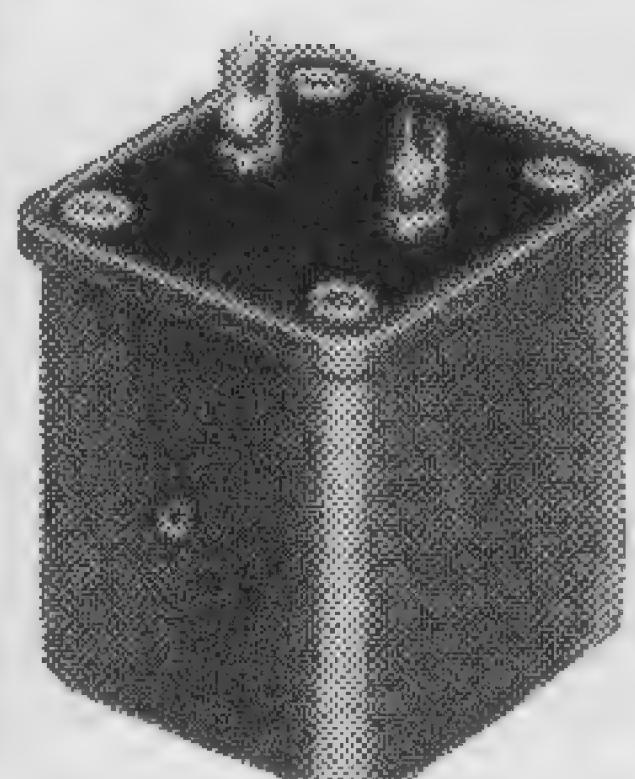
**POWER COMPONENTS**  
Rugged . . . Dependable



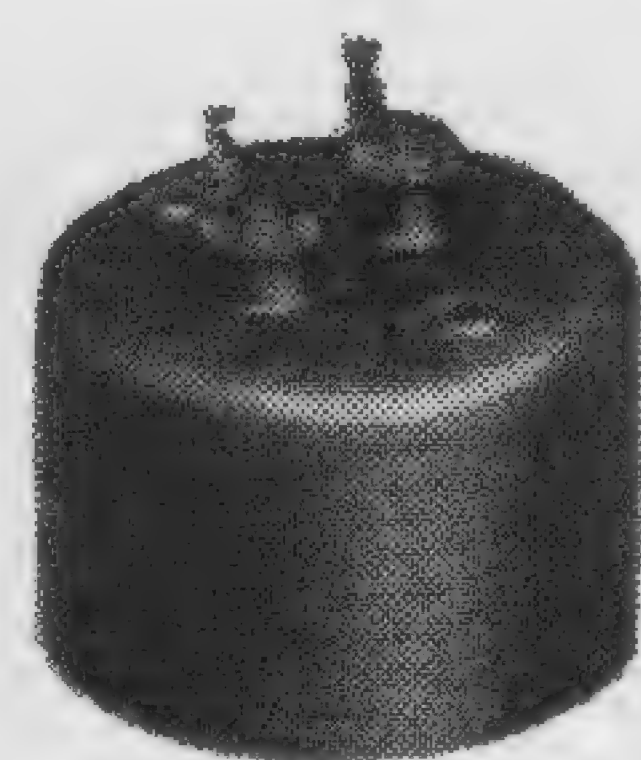
**VARITRAN**  
Voltage Adjustors



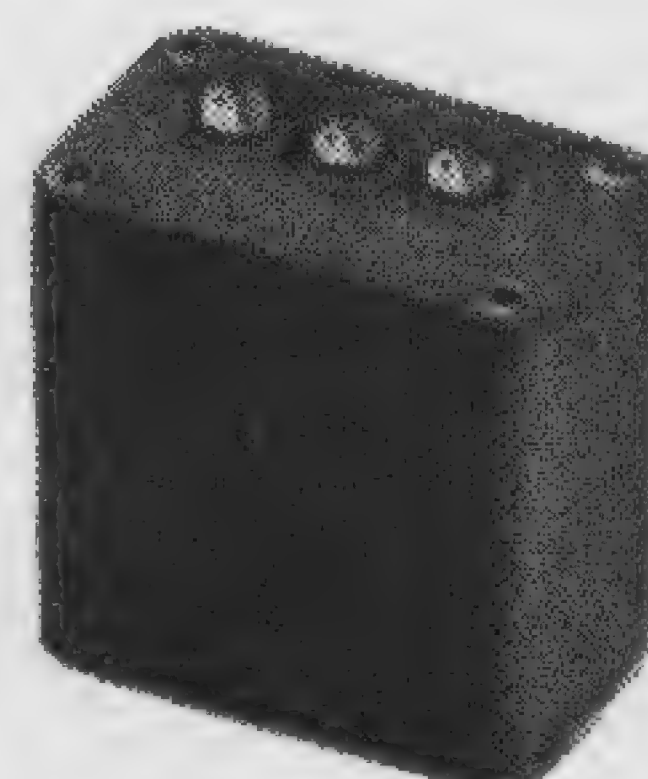
**MODULATION UNITS**  
One watt to 100KW



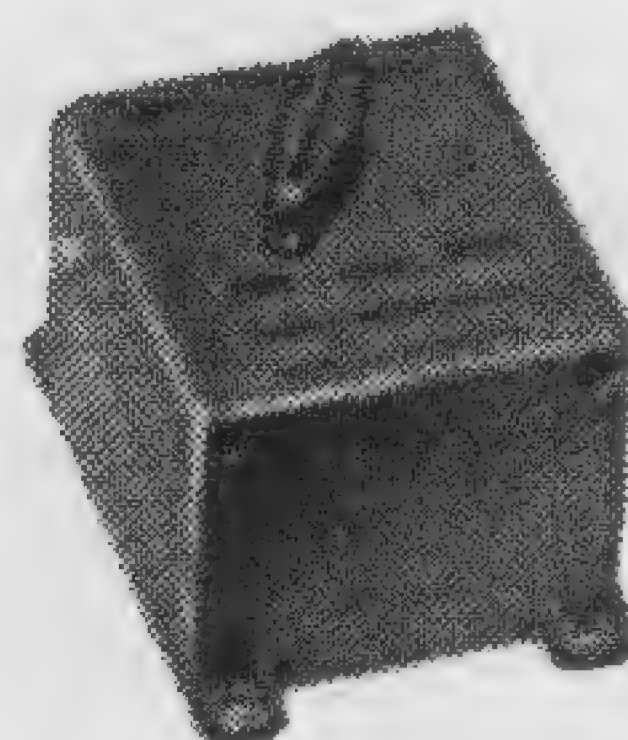
**VARIABLE INDUCTOR**  
Adjust like a Trimmer



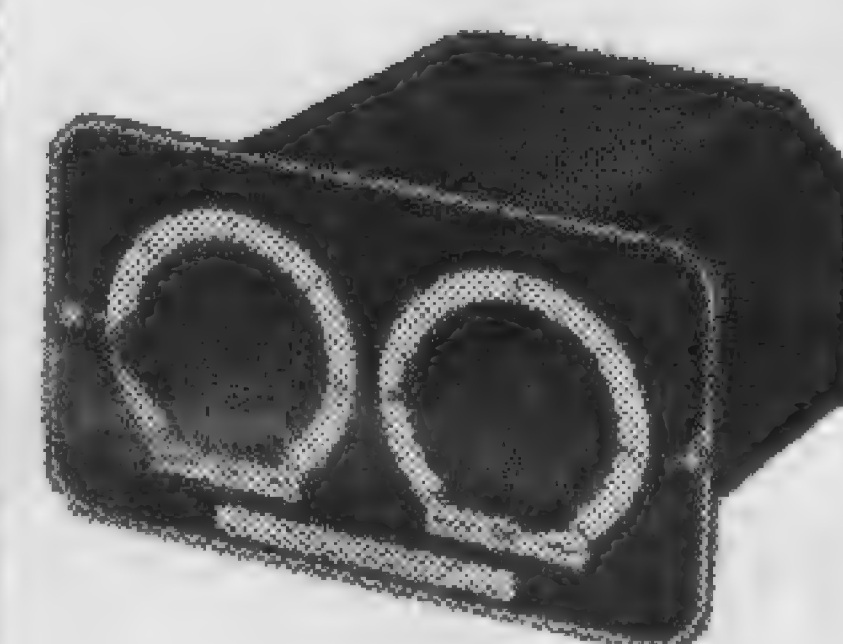
**TOROID HIGH Q COILS**  
Accuracy . . . Stability



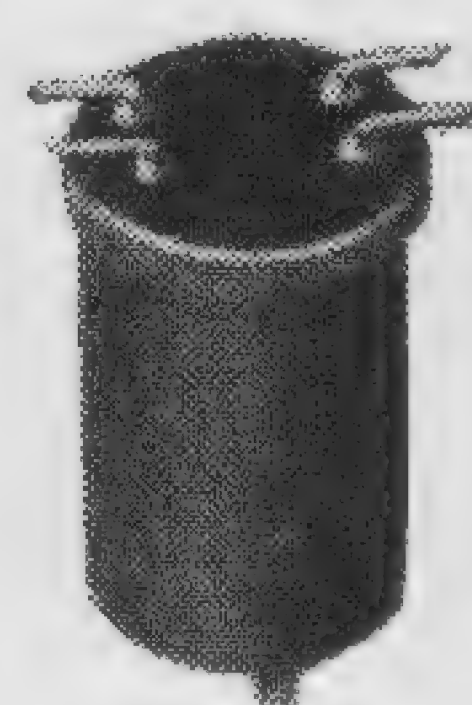
**TOROID FILTERS**  
Any type to 300KC



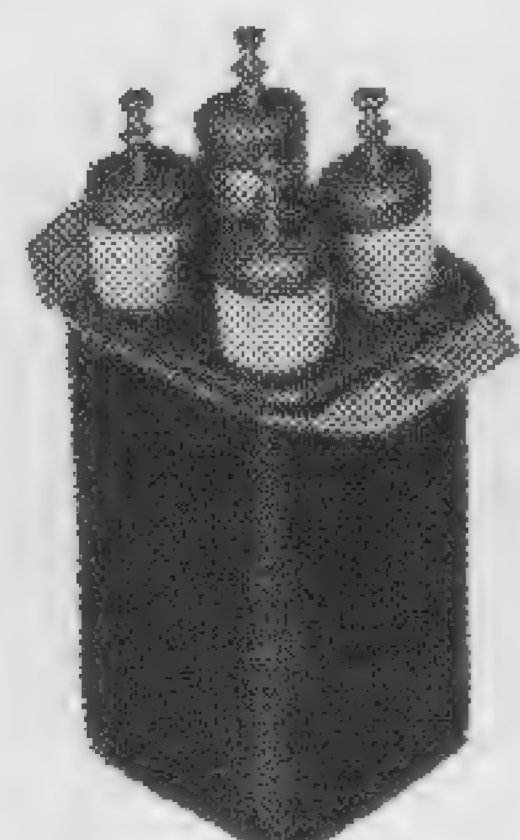
**MU-CORE FILTERS**  
Any type 1/2 - 10,000 cyc.



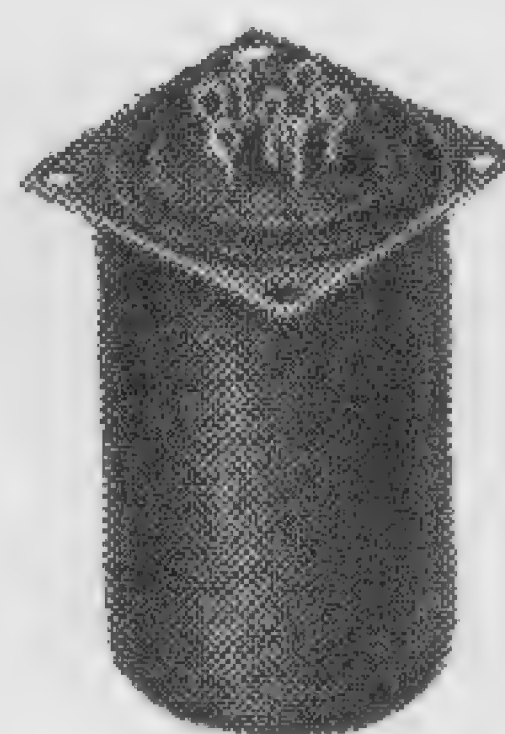
**EQUALIZERS**  
Broadcast & Sound



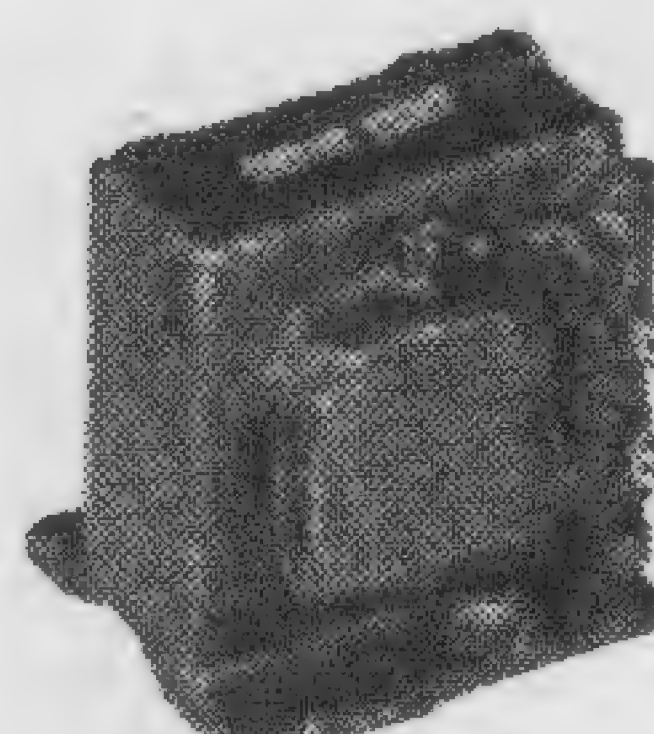
**PULSE TRANSFORMERS**  
For all Services



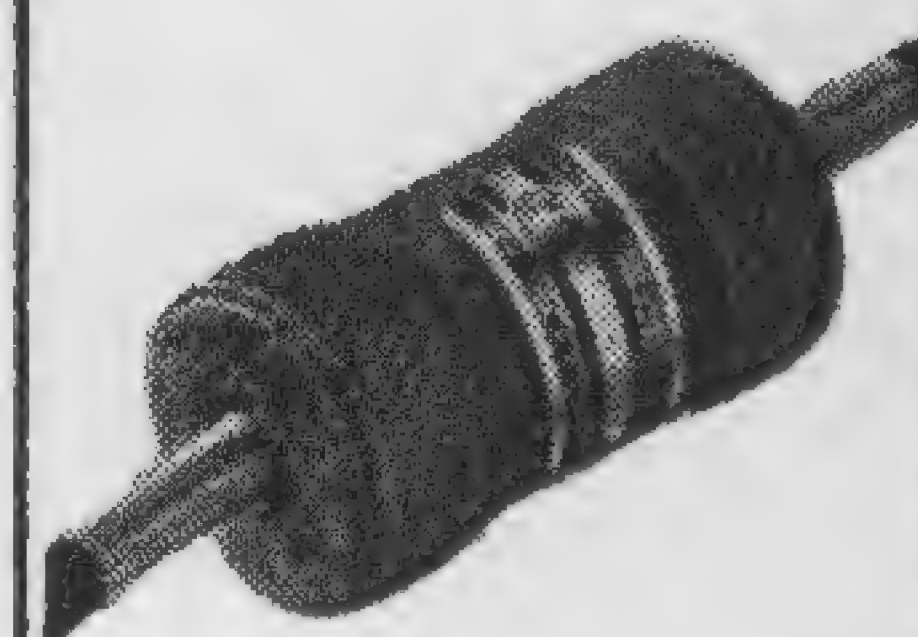
**HERMETIC COMPONENTS**  
Ceramic Terminals



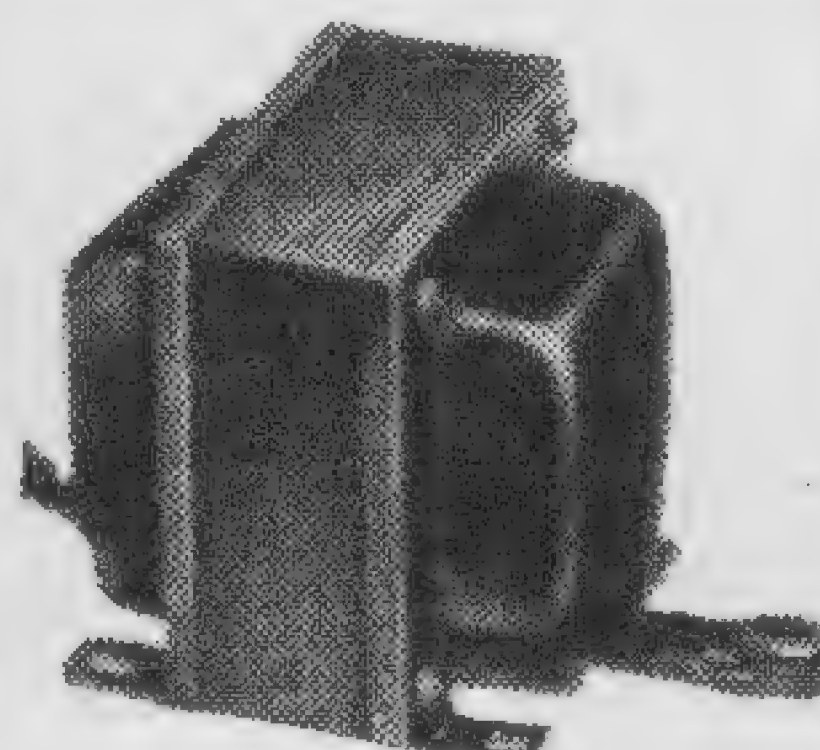
**HERMETIC COMPONENTS**  
Glass Terminals



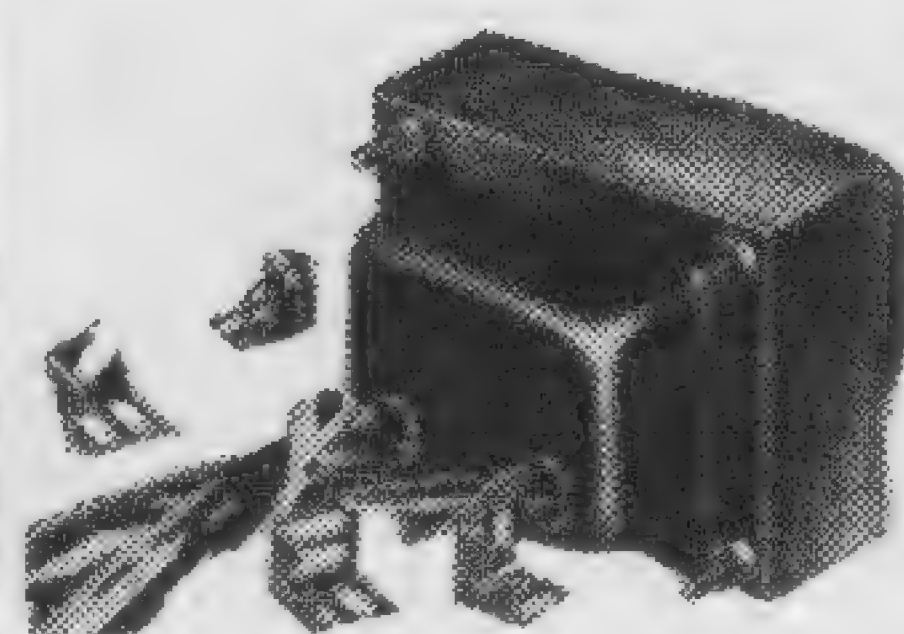
**GRADE 3 JAN**  
Components



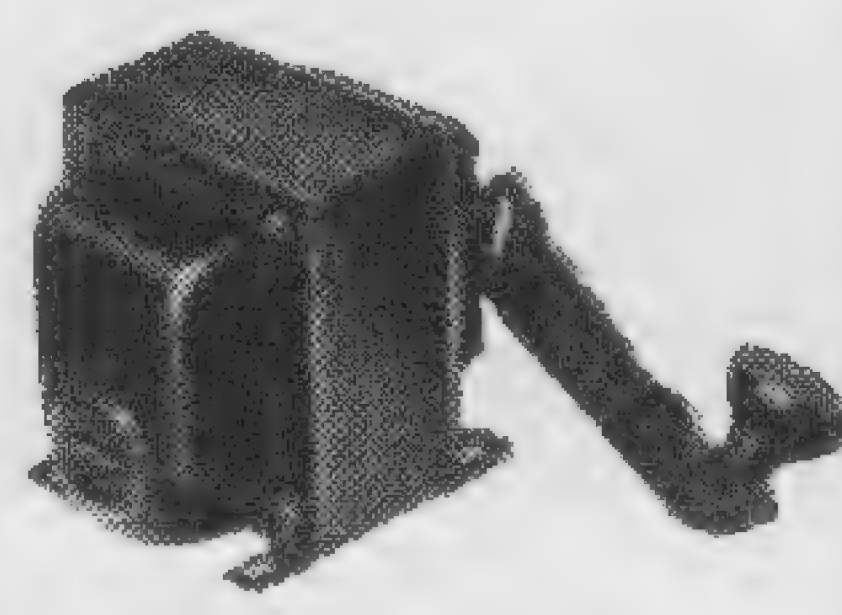
**CABLE TYPE**  
For mike cable line



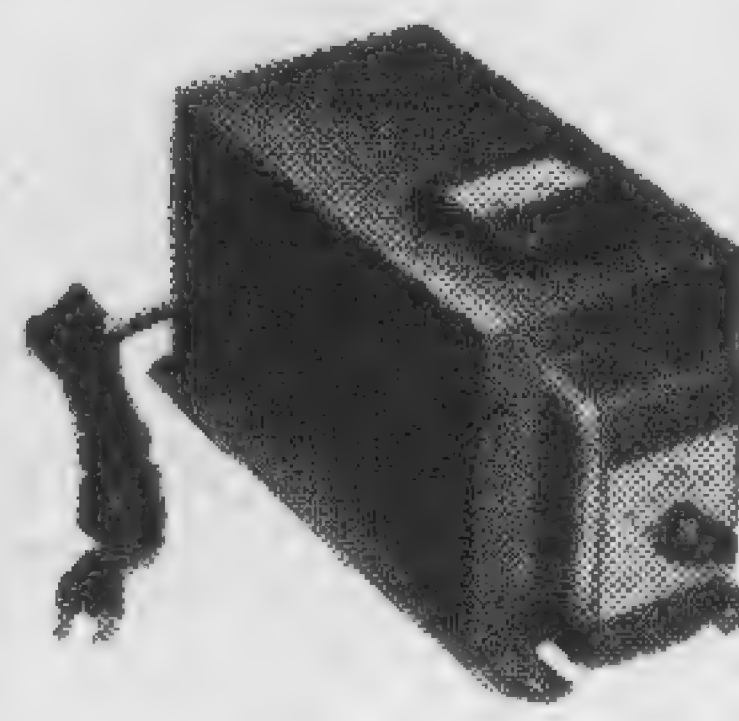
**VERTICAL SHELLS**  
Husky . . . Inexpensive



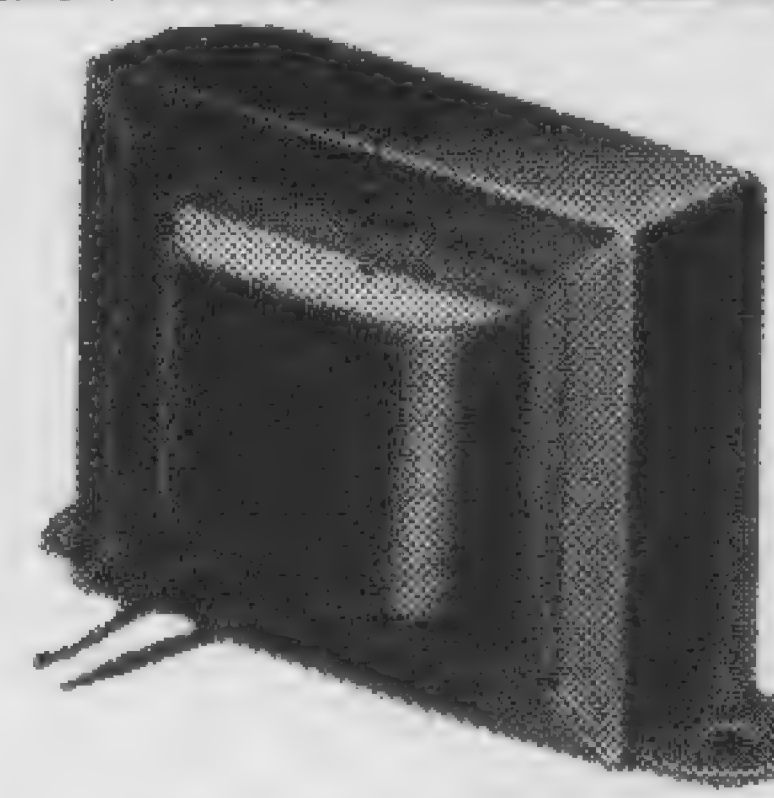
**REPLACEMENT**  
Universal Mounting



**STEP-DOWN**  
Up to 2500W . . . Stock



**LINE ADJUSTORS**  
Match any line voltage



**CHANNEL FRAME**  
Simple . . . Low cost

*United Transformer Co.*

150 VARICK STREET

NEW YORK 13, N. Y.

EXPORT DIVISION: 13 EAST 40th STREET, NEW YORK 16, N. Y.,

CABLES: "ARLAB"



## WORLD TIME CONVERSION CHART IN HOURS

Greenwich Meridian Time, London, Eng- land.	Central Europe, Ber- lin, Geneva, Stock- holm, Vienna.	Eastern Europe, Ath- ens, Cape Town, Cairo, Moscow.	Arabia, Armenia, Ethiopia, Madagas- car.	Mauritius, Persia, Reunion Island.	Central Russia, Bom- bay, India.	Calcutta, Novosi- birsk, Russia, Tibet.	French Indo China, Siam, Sumatra.	Philippine Islands, Perth, Australia.	Central Australia, Tokyo, Japan.	Eastern Australia, Melbourne, Sydney.	New Caledonia.	International Date Line.	Fiji Islands.	Norfolk, Alaska.	Hawaiian Islands.	Eastern Alaska.	Pacific Standard Time, Los Angeles, Seattle.	Mountain Standard Time, Calgary, Phoenix.	Central Standard Time, Chicago, Costa Rica.	Eastern Standard Time, Montreal, New York, Peru.	Atlantic Standard Time, Argentina, Nova Scotia.	Greenland, Rio de Janeiro, Brazil.	Azores.	Canary Islands.
0000	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
0100	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night
0200	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM
0300	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM
0400	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM
0500	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM
0600	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM
0700	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM
0800	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM
0900	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM
1000	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM
1100	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	10 AM
1200	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	11 AM
1300	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	Noon
1400	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	1 PM
1500	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	2 PM
1600	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	3 PM
1700	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	4 PM
1800	7 PM	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	5 PM
1900	8 PM	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	6 PM
2000	9 PM	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	7 PM
2100	10 PM	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	8 PM
2200	11 PM	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	9 PM
2300	Mid Night	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	10 PM

With this chart you can convert standard time in any time zone to GMT or tell what time it is in other parts of the world. To correctly use this chart visualize each horizontal line as a complete circle. From your time zone tracing horizontally to the right (Counter Clockwise) it will be tomorrow when you pass midnight and yesterday when you pass the international date line. To the left (Clockwise) it will be yesterday when you pass midnight and tomorrow when you pass the international date line. There is no change in date when you pass both midnight and the international date line going in one direction. For instance at 8 PM in New York Eastern Standard Time it is 2 AM tomorrow in Berlin, Germany and 11 AM tomorrow in Sydney, Australia. Always trace in the shortest direction from your time zone to find what time it is in any other zone. Copyright 1938 Radio Amateur Call Book, Inc., Chicago, USA.



# GREAT CIRCLE BEARINGS

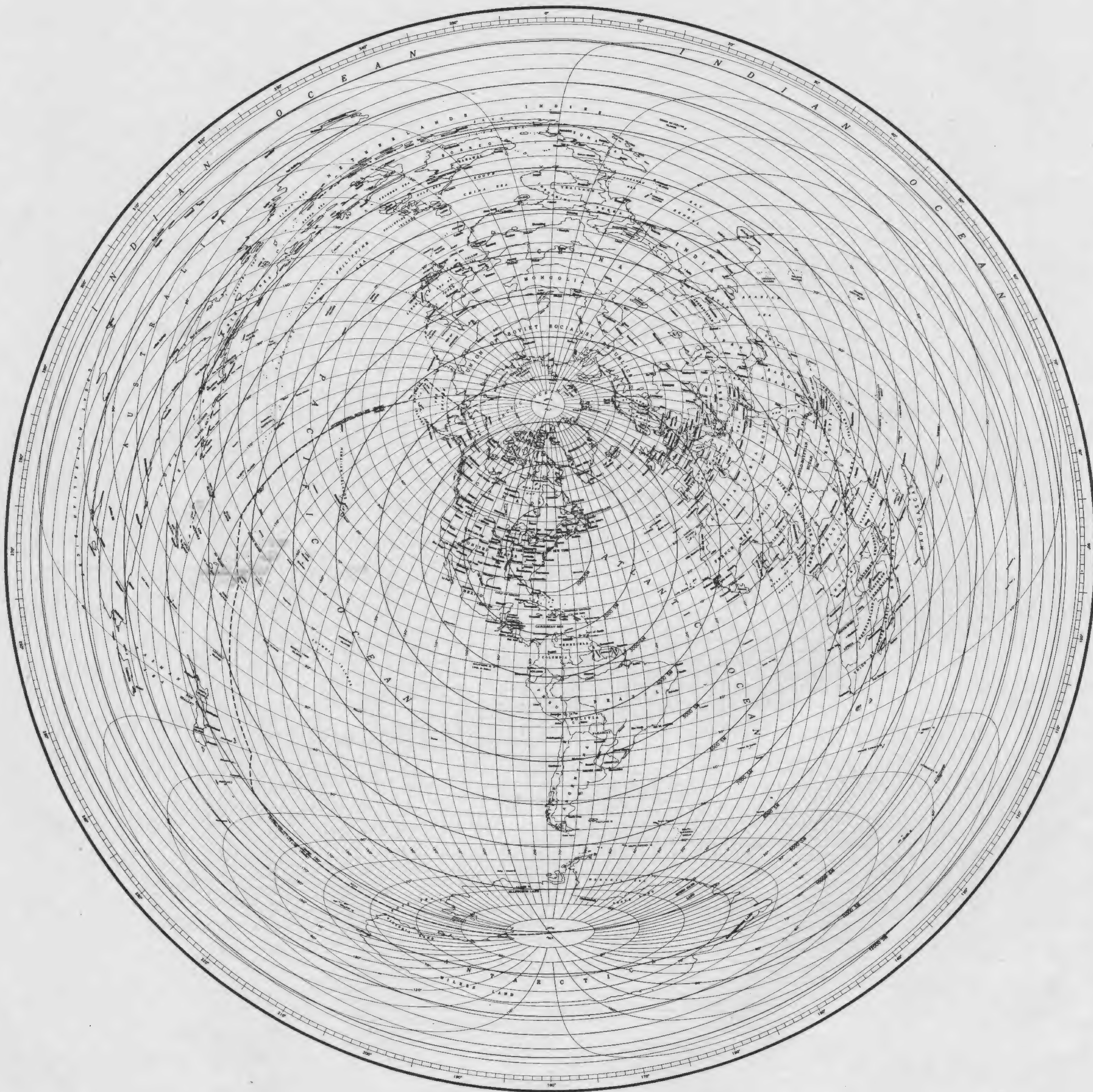
## FROM THE CENTER OF THE UNITED STATES

The table below shows the great circle bearing in degrees from the exact center of the United States to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is given. These bearings were compiled from information supplied by the U. S. Coast and Geodetic Survey.

Prefix	Country	Bearing	Prefix	Country	Bearing	Prefix	Country	Bearing
AG3	SIKKIM	352	KL7	ALASKA, Anchorage	322	VK3	Melbourne	250
AG4	TIBET, Lhasa	350		Fairbanks	329	VK4	Brisbane	257
AG2	TRIESTE	41	KM6	MIDWAY ISLAND	288	VK5	Darwin	287
AP	PAKISTAN, Karachi	13	KP4	PUERTO RICO	117	VK6	Perth	274
AR8	LEBANON, Beyrouth	36	KP6	PALMYRA ISLAND	256	VK7	TASMANIA, Hobart	243
C	CHINA, Chungking	335	KR6	OKINAWA ISLAND	318	VK9	NORFOLK ISLAND	248
	Pekin	333	KS4	SWAN ISLAND	144		PAPUA TERRITORY, Port Moresby	277
	Shanghai	325	KS6	SAMOA	248	VO	NEWFOUNDLAND, St. John's	59
CE	CHILE, Santiago	156	KV4	VIRGIN ISLANDS	115	VP1	BRITISH HONDURAS	152
CM	CUBA, Havana	135	KW6	WAKE ISLAND	287	VP2	LEEWARD and WINDWARD ISLANDS	112
CN8	FRENCH MOROCCO, Casablanca	62	KX6	MARSHALL ISLANDS	276	VP3	BRITISH GUIANA, Georgetown	120
CP	BOLIVIA, La Paz	146	KZ5	CANAL ZONE	145	VP4	TRINIDAD	120
CR4	CAPE VERDE ISLANDS	87	LA	NORWAY, Oslo	29	VP5	JAMAICA	127
CR5	PORTUGUESE GUINEA	84	LI	LIBYA, Tripoli	51	VP6	BARBADOS ISLANDS	112
CR6	ANGOLA, Nova Lisboa	83	LU	ARGENTINA, Buenos Aires	147	VP7	BAHAMAS ISLANDS	121
CR7	MOZAMBIQUE, Lourenco Marques	85	LX	LUXEMBOURG	42	VP8	FALKLAND ISLANDS	156
	Mozambique	65	LZ	BULGARIA, Sofia	38		South Georgia Island	147
GR8	GOA	7	MB9	AUSTRIA, Vienna	38		South Orkney Islands	155
GR9	MACAU	327	MD1	CIRENAICA	46	VP9	BERMUDA	94
GR10	TIMOR ISLAND	295	MD2	TRIPOLITANIA	51	VQ1	ZANZIBAR	57
CT1	PORTUGAL, Lisbon	59	MD3	ERITREA, Asmara	44	VQ2	NORTHERN RHODESIA, Lusaka	77
CT2	AZORES ISLANDS	67	MD4	BRITISH SOMALILAND	40	VQ3	TANGANYIKA, Dar-Es-Salaam	59
CT3	MADERIA ISLANDS	68	MD5	SUEZ CANAL ZONE	40	VQ4	KENYA, Nairobi	56
CX	URUGUAY, Montevideo	145	MD6	IRAQ, Baghdad	30	VQ5	UGANDA	59
DL	GERMANY, Berlin	37	MD7	CYPRUS	37	VQ6	BRITISH SOMALILAND	40
DU	PHILIPPINE ISLANDS, Manila	316	MF2	TRIESTE (British)	41	VQ8	CHAGOS ISLANDS	14
EA	SPAIN, Madrid	54	MI3	ERITREA, Asmara	44		Mauritius	51
EA6	BALEARIC ISLANDS	52	MP4	BAHREIN ISLANDS and OMAN	28	VQ9	SEYCHELLES	38
EA8	CANARY ISLANDS	71	OA	PERU, Lima	153	VR1	GILBERT ISLANDS	267
EA9	SPANISH MOROCCO	59	OH	FINLAND, Helsinki	25	VR2	FIJI ISLANDS	251
EI	IRELAND, Dublin	43	OE	AUSTRIA, Vienna	38	VR3	FANNING ISLAND	252
EKI	TANGIER ZONE	60	OK	CZECHOSLOVAKIA, Prague	38	VR4	SOLOMON ISLANDS	270
EL	LIBERIA, Monrovia	86	ON	BELGIUM, Brussels	41	VR5	TONGA ISLANDS	244
EP	IRAN, Tehran	23	OQ5	BELGIAN CONGO, Elisabethville	74	VR6	PITCAIRN ISLAND	208
ET	ETHIOPIA, Addis Ababa	48		Leopoldville	76	VS	MALAYA, Singapore	326
F	FRANCE, Paris	44		Stanleyville	65	VS4	BRITISH NORTH BORNEO	314
FA	ALGERIA, Algiers	54	OX	GREENLAND, Godthaab	34	VS5	BRUNEI and SARAWAK	316
FBB	MADAGASCAR, Antsirana	53	OY	FAEROES ISLANDS	34	VS6	HONG KONG	326
	Tananarive	63	OZ	DENMARK, Copenhagen	34	VS7	CEYLON	1
FG	CORSICA	46	PA	NETHERLANDS, Amsterdam	40	VS9	ADEN, Aden	39
FD8	TOGOLAND	77	PK	JAVA, Batavia	317	VU	INDIA, Bombay	8
FE8	FRENCH CAMEROONS	72	PK4	SUMATRA	328		Calcutta	351
FF8	FRENCH WEST AFRICA, Dakar	84	PK5	BORNEO	314		Delhi	3
FG8	GADELOUPE	114	PK6	CELEBES ISLAND	305	VU4	LACCADIVE ISLANDS	9
FIB	FRENCH INDO CHINA, Saigon	328	PK7	NETHERLAND NEW GUINEA	290	VU5	ANDAMAN ISLANDS	345
FK8	NEW CALEDONIA, Noumea	254	PX	ANDORRA	50	XE	MEXICO, Mexico City	178
FL8	FRENCH SOMALILAND, Djibouti	42	PY	BRAZIL, Natal	112	XZ	BURMA, Rangoon	342
FM8	MARTINIQUE	117		Rio de Janeiro	129	YA	AFGHANISTAN, Kandahar	13
F08	FRENCH OCEANIA, Tahiti	229	PZ	SURINAM, (Netherland Guiana)	121	YI	IRAQ, Baghdad	30
FP8	MIQUELON and ST. PIERRE IS.	64	SM	SWEDEN, Stockholm	29	YJ	NEW HEBRIDES	260
FQ8	FRENCH EQUATORIAL AFRICA	65	SP	POLAND, Warsaw	33	YK	SYRIA	34
FR8	REUNION ISLAND	55	ST	ANGLO-EGYPTIAN SUDAN, Khartoum	49	YN	NICARAGUA	150
FT4	TUNISIA, Tunis	50	SU	EGYPT, Cairo	41	YO	ROMANIA, Bucharest	36
FU8	NEW HEBRIDES	259	SV	GREECE, Athens	41	YS	SALVADOR, San Salvador	156
FY8	FRENCH GUIANA, Cayenne	117	SV5	DODECANESE ISLANDS	40	YT	YUGOSLAVIA, Belgrade	39
G	ENGLAND, London	43	TA	TURKEY, Ankara	35	YV	VENEZUELA, Caracas	126
GC	CHANNEL ISLANDS	45	TF	ICELAND, Reykjavik	35	ZA	ALBANIA, Tirana	41
GD	ISLE OF MAN	41	TG	GUATEMALA, Guatemala City	161	ZB1	MALTA	48
GI	NORTHERN IRELAND, Belfast	42	TI	COSTA RICA	150	ZB2	GIBRALTAR	58
GM	SCOTLAND, Glasgow	40	TR	LIBYA, Tripoli	51	ZC1	TRANSJORDAN	36
GW	WALES	43	TT	TANNU TUVA, Kyzyl Khoto	351	ZC2	COCOS ISLANDS	327
HA	HUNGARY, Budapest	37	U	SOVIET UNION, Moscow	23	ZC3	CHRISTMAS ISLAND	315
HB	SWITZERLAND, Bern	43	UB5	UKRAINE	30	ZC4	CYPRUS	37
HC	ECUADOR, Quito	148	UC5	WHITE RUSSIA	25	ZD1	SIERRA LEONE, Freetown	81
HC8	GALAPAGOS ISLANDS	167	UD6	AZERBAIJAN	23	ZD2	NIGERIA, Lagos	76
HE1	LEICHTENSTEIN	43	UF6	GEORGIA	28	ZD3	GAMBIA	84
HH	HAITI, Port-au-Prince	124	UG6	ARMENIA	26	ZD4	GOLD COAST, Accra	80
HI	DOMINICAN REPUBLIC	122	UH8	TURKOMAN	19	ZD6	NYASALAND	69
HK	COLOMBIA, Bogota	140	UI8	UZBEK	12	ZD7	ST. HELENA	100
H1	KOREA, Seoul	324	UJ8	TADZHIK	7	ZD8	ASENCION ISLAND	99
HP	PANAMA	145	UL7	KAZAKH	10	ZD9	TRISTAN da CUNHA	122
HR	HONDURAS	152	UM8	KIRGHIZ	5	ZE	SOUTHERN RHODESIA, Salisbury	77
HS	SIAM, Bangkok	336	UN1	KARELO-FINNISH REPUBLIC	20	ZK1	COOK ISLANDS	234
HV	VATICAN CITY	45	UO5	MOLDAVIA	32	ZK2	NIUE	242
HZ	SAUDI ARABIA	34	UP	LITHUANIA	30	ZL1	NEW ZEALAND, Auckland	238
I	ITALY, Rome	45	UQ	LATVIA	29	ZL2	Wellington	234
IS	SARDINIA	48	UR	ESTONIA	27	ZL3	Christchurch	233
JA	JAPAN, Tokyo	315	VE1	CANADA, Halifax	68	ZL4	Dunedin	231
KB6	BAKER ISLAND	262	VE2	Montreal	64	ZM6	SAMOA (British)	248
KC6	CAROLINE ISLANDS	260	VE3	Toronto	77	ZP	PARAGUAY, Asuncion	141
KG4	GUANTANAMO BAY, Cuba	126	VE4	Winnipeg	10	ZS	UNION OF SOUTH AFRICA, Capetown	104
KG6	GUAM	297	VE5	Saskatoon	339		Durban	91
KG6I	IWO JIMA ISLAND	317	VE6	Edmonton	330		Johannesburg	89
KG6S	SAIPAN ISLAND	297	VE7	Vancouver	308	ZS3	SOUTH WEST AFRICA, Windhoek	92
KG6T	TINIAN ISLAND	297	VE8	Fort Nelson	333	ZS7	SWAZILAND	87
KH6	HAWAIIAN ISLANDS, Honolulu	267	VK1	HEARD ISLAND	163	ZS8	BASUTOLAND	93
KJ6	JOHNSTON ISLAND	270	VK2	AUSTRALIA, Sydney	252	ZS9	BECHUANALAND	87



# Great Circle Chart of the World Centered on NEW YORK, N. Y.



To find the great circle bearing of any point in the world from New York, N. Y., draw a straight line from the center and note the reading in degrees on the outer scale. The circles at 1,000 statute mile intervals, permit this chart to be used as a distance table from New York City to any point in the world. Prepared by the U. S. Coast and Geodetic Survey.



# GREAT CIRCLE BEARINGS

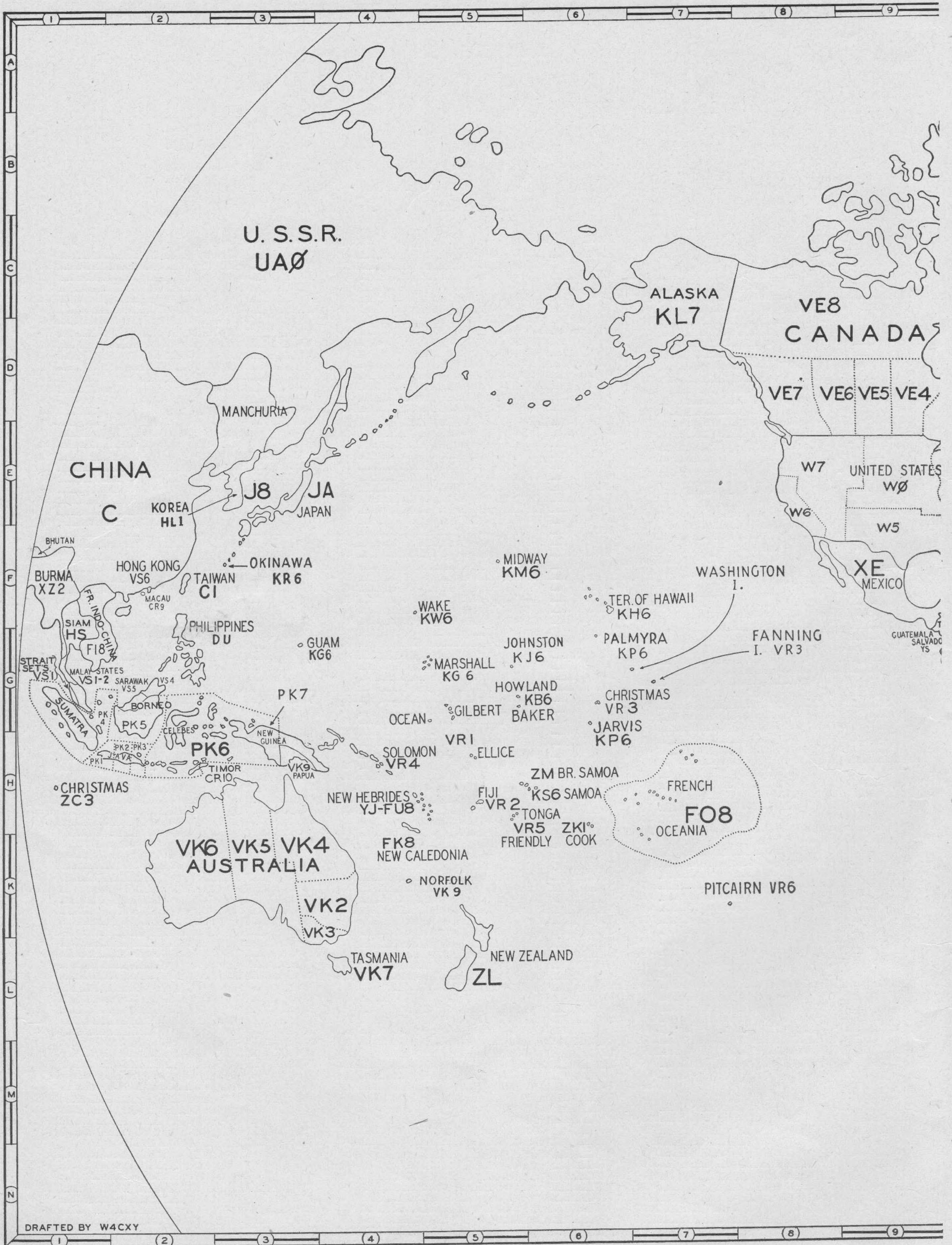
## CENTERED ON NEW YORK, N. Y.

The table below shows the great circle bearing in degrees from New York, N. Y., to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is given. These bearings were compiled from information supplied by the U. S. Coast and Geodetic Survey.

Prefix	Country	Bearing	Prefix	Country	Bearing	Prefix	Country	Bearing
AC3	SIKKIM	17	KL7	ALASKA, Anchorage	321	VK3	Melbourne	262
AC4	TIBET, Lhasa	14		Fairbanks	327	VK4	Brisbane	274
AG2	TRIESTE	53	KM6	MIDWAY ISLAND	301	VK5	Darwin	315
AP	PAKISTAN, Karachi	36	KP4	PUERTO RICO, San Juan	160	VK6	Perth	315
AR8	LEBANON, Beyrouth	52	KP6	PALMYRA ISLAND	271	VK7	TASMANIA, Hobart	252
C	CHINA, Chungking	359	KR6	OKINAWA ISLAND	340	VK9	NORFOLK ISLAND	263
	Pekin	352	KS4	SWAN ISLAND	203		PAPUA TERRITORY, Port Moresby	299
	Shanghai	346	KS6	SAMOA	264	VO	NEWFOUNDLAND, St. John's	60
CE	CHILE, Santiago	177	KV4	VIRGIN ISLANDS	151	VP1	BRITISH HONDURAS	212
CM	CUBA, Havana	204	KW6	WAKE ISLAND	304	VP2	LEEWARD & WINDWARD ISLANDS	151
CN8	FRENCH MOROCCO, Casablanca	75	KX6	MARSHALL ISLANDS	294	VP3	BRITISH GUIANA, Georgetown	152
CP	BOLIVIA, La Paz	173	KZ5	CANAL ZONE	190	VP4	TRINIDAD	155
CR4	CAPE VERDE ISLANDS	105	LA	NORWAY, Oslo	39	VP5	JAMAICA, Kingston	187
CR5	PORTUGUESE GUINEA	101	LI	LIBYA, Tripoli	65	VP6	BARBADOS ISLANDS	149
CR6	ANGOLA, Nova Lisboa	100	LU	ARGENTINA, Buenos Aires	167	VP7	BAHAMAS ISLANDS	186
CR7	MOZAMBIQUE, Lourenco Marques	101	LX	LUXEMBOURG	51	VP8	FALKLAND ISLANDS	171
	Mocambique	85	LZ	BULGARIA, Sofia	52		South Georgia Island	159
CR8	GOA	35	MB9	AUSTRIA, Vienna	49		South Orkney Islands	166
CR9	MACAU	352	MD1	CIRENAICA	61	VP9	BERMUDA	134
CR10	TIMOR ISLAND	327	MD2	TRIPOLITANIA	65	VQ1	ZANZIBAR	79
CT1	PORTUGAL, Lisbon	70	MD3	ERITREA, Asmara	63	VQ2	NORTHERN RHODESIA, Lusaka	94
CT2	AZORES ISLANDS	78	MD4	BRITISH SOMALILAND	62	VQ3	TANGANYIKA, Dar-Es-Salaam	80
CT3	MADERIA ISLANDS	81	MD5	SUEZ CANAL ZONE	57	VQ4	KENYA, Nairobi	77
CX	URUGUAY, Montevideo	165	MD6	IRAQ, Baghdad	47	VQ5	UGANDA	83
DL	GERMANY, Berlin	46	MD7	CYPRUS	53	VQ6	BRITISH SOMALILAND, Berbera	62
DU	PHILIPPINE ISLANDS, Manila	343	MF2	TRIESTE (British)	53	VQ8	CHAGOS ISLANDS	50
EA	SPAIN, Madrid	66	MI3	ERITREA, Asmara	63		Mauritius	78
EA6	BALEARIC ISLANDS	64	MP4	BAHRAIN ISLANDS & OMAN	48	VQ9	SEYCHELLES	65
EA8	CANARY ISLANDS	86	OA	PERU, Lima	184	VR1	GILBERT ISLANDS	283
EA9	SPANISH MOROCCO	72	OH	FINLAND, Helsinki	35	VR2	FIJI ISLANDS, Suva	267
EI	IRELAND, Dublin	50	OE	AUSTRIA, Vienna	49	VR3	FANNING ISLAND	270
EK1	TANGIER ZONE	72	OK	CZECHOSLOVAKIA, Prague	48	VR4	SOLOMON ISLANDS	290
EL	LIBERIA, Monrovia	103	ON	BELGIUM, Brussels	51	VR5	TONGA ISLANDS	261
EP	IRAN, Tehran	42	OQ5	BELGIAN CONGO, Elisabethville	91	VR6	PITCAIRN ISLAND	229
ET	ETHIOPIA, Addis Ababa	68		Leopoldville	94	VS	MALAYA, Singapore	3
F	FRANCE, Paris	54		Stanleyville	83	VS4	BRITISH NORTH BORNEO	345
FA	ALGERIA, Algiers	67	OX	GREENLAND, Godthaab	22	VS5	BRUNEI and SARAWAK	348
FB8	MADAGASCAR, Antsirana	77	OY	FAEROES ISLANDS	38	VS6	HONG KONG	351
	Tananarive	84	OZ	DENMARK, Copenhagen	43	VS7	CEYLON	32
FC	CORSICA	58	PA	NETHERLANDS, Amsterdam	49	VS9	ADEN, Aden	61
FD8	TOGOLAND	93	PK	JAVA, Batavia	358	VU	INDIA, Bombay	34
FE8	FRENCH CAMEROONS	90	PK4	SUMATRA	5		Calcutta	18
FF8	FRENCH WEST AFRICA, Dakar	101	PK5	BORNEO	348		Delhi	26
FG8	GUADELOUPE	152	PK6	CELEBES ISLAND	336	VU4	LACCADIVE ISLANDS	38
F18	FRENCH INDO CHINA, Saigon	359	PK7	NETHERLAND NEW GUINEA	313	VU5	ANDAMAN ISLANDS	16
FK8	NEW CALEDONIA, Noumea	271	PX	ANDORRA	62	XE	MEXICO, Mexico City	233
FL8	FRENCH SOMALILAND, Djibouti	63	PY	BRAZIL, Natal	132	XZ	BURMA, Rangoon	11
FM8	MARTINIQUE	153		Rio de Janeiro	150	YA	AFGHANISTAN, Kandahar	34
FO8	FRENCH OCEANIA, Tahiti	248	PZ	SURINAM (Netherlands Guiana)	151	YI	IRAQ, Baghdad	47
FP8	MIQUELON & ST. PIERRE IS.	55	SM	SWEDEN, Stockholm	38	YJ	NEW HEBRIDES	276
FQ8	FRENCH EQUATORIAL AFRICA	82	SP	POLAND, Warsaw	44	YK	SYRIA	50
FR8	REUNION ISLAND	81	ST	ANGLO-EGYPTIAN SUDAN,		YN	NICARAGUA, Managua	204
FT4	TUNISIA, Tunis	63		Khartoum	67	YO	ROMANIA, Bucharest	49
FU8	NEW HEBRIDES	276	SU	EGYPT, Cairo	58	YS	SALVADOR, San Salvador	210
FY8	FRENCH GUIANA, Cayenne	146	SV	GREECE, Athens	56	YT	YUGOSLAVIA, Belgrade	51
G	ENGLAND, London	51	SV5	DODECANESE ISLANDS	54	YV	VENEZUELA, Caracas	166
GC	CHANNEL ISLANDS	53	TA	TURKEY, Ankara	49	ZA	ALBANIA, Tirana	55
GD	ISLE OF MAN	48	TF	ICELAND, Reykjavik	34	ZB1	MALTA	61
GI	NORTHERN IRELAND, Belfast	49	TG	GUATEMALA, Guatemala City	214	ZB2	GIBRALTAR	71
GM	SCOTLAND, Glasgow	46	TI	COSTA RICA, San Jose	199	ZC1	TRANSJORDAN	53
GW	WALES	50	TR	LIBYA, Tripoli	65	ZC2	COCOS ISLANDS	18
HA	HUNGARY, Budapest	49	TT	TANNU TUVA, Kyzyl Khot	7	ZC3	CHRISTMAS ISLAND	267
HB	SWITZERLAND, Bern	54	U	SOVIET UNION, Moscow	34	ZC4	CYPRUS	53
HC	ECUADOR, Quito	187	UB5	UKRAINE	43	ZD1	SIERRA LEONE, Freetown	103
HC8	GALAPAGOS ISLANDS	205	UC5	WHITE RUSSIA	39	ZD2	NIGERIA, Lagos	93
HE1	LEICHTENSTEIN	54	UD6	AZERBAIJAN	42	ZD3	GAMBIA	102
HH	HAITI, Port-au-Prince	175	UF6	GEORGIA	41	ZD4	GOLD COAST, Accra	96
HI	DOMINICAN REPUBLIC	170	UG6	ARMENIA	43	ZD6	NYASALAND	87
HK	COLOMBIA, Bogota	180	UH8	TURKOMAN	33	ZD7	ST. HELENA	116
H1	KOREA, Seoul	343	UI8	UZBEK	29	ZD8	ASENCION ISLAND	116
HP	PANAMA	190	UJ8	TADZHIK	28	ZD9	TRISTAN da CUNHA	135
HR	HONDURAS, Tegucigalpa	207	UL7	KAZAKH	22	ZE	SOUTHERN RHODESIA, Salisbury	94
HS	SIAM, Bangkok	6	UM8	KIRGHIZ	21	ZK1	COOK ISLANDS	252
HV	VATICAN CITY	57	UN1	KARELO-FINNISH REPUBLIC	27	ZK2	NIUE	258
HZ	SAUDI ARABIA	55	UO5	MOLDAVIA	46	ZL1	NEW ZEALAND, Auckland	251
I	ITALY, Rome	57	UP	LITHUANIA	40	ZL2	Wellington	245
IS	SARDINIA	60	UQ	LATVIA	38	ZL3	Christchurch	243
JA	JAPAN, TOKYO	333	UR	ESTONIA	36	ZL4	Dunedin	241
KB6	BAKER ISLAND	278	VE1	CANADA, Halifax	61	ZM6	SAMOA (British)	265
KC6	CAROLINE ISLANDS	312	VE2	Montreal	4	ZP	PARAGUAY, Asuncion	164
KG4	GUANTANAMO BAY, Cuba	181	VE3	Toronto	305	ZS	UNION OF SOUTH AFRICA,	
KG6	GUAM	318	VE4	Winnipeg	307		Capetown	116
KG61	IWO JIMA ISLAND	327	VE5	Saskatoon	308		Durban	106
KG6S	SAIPAN ISLAND	318	VE6	Edmonton	311		Johannesburg	104
KG6T	TINIAN ISLAND	318	VE7	Vancouver	302	ZS3	SOUTH WEST AFRICA, Windhoek	107
KH6	HAWAIIAN ISLANDS, Honolulu	283	VE8	Fort Nelson	318	ZS7	SWAZILAND	102
KJ6	JOHNSTON ISLAND	286	VK1	HEARD ISLAND	130	ZS8	BASUTOLAND	107
			VK2	AUSTRALIA, Sydney	266	ZS9	BECHUANALAND	103

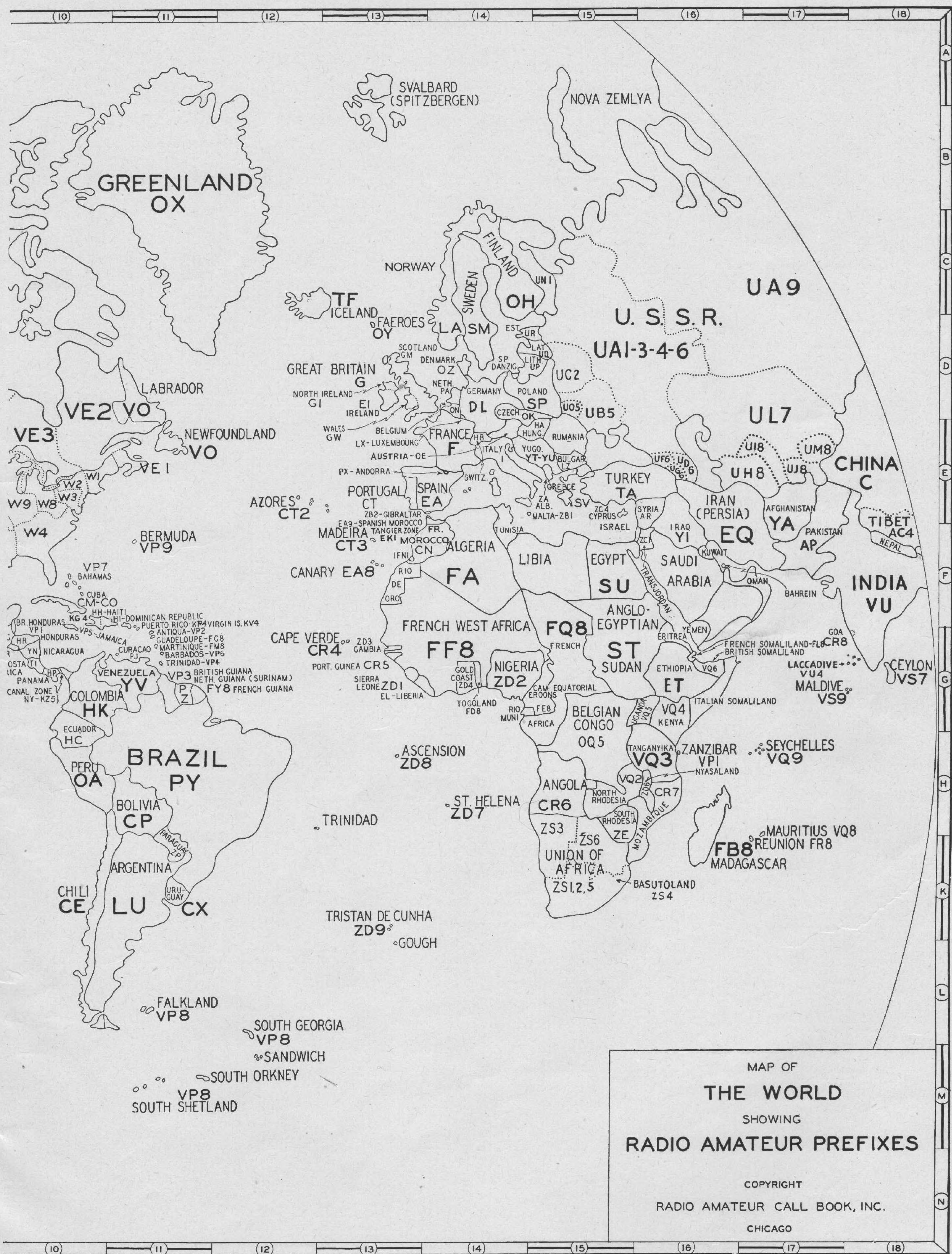


# WORLD MAP SHOWING





# RADIO AMATEUR PREFIXES





GREAT CIRCLE BEARINGS FROM THE UNITED STATES TO VARIOUS WORLD WIDE METROPOLITAN AREAS

AMSTERDAM, HOLLAND	43	325	153	242	160	26	48	45	158	51	114	141	38	198	170	170	45	58	329	227	156	32	34	47	42	170	139	51	179	168	336	346	33	254	324	TOKYO, JAPAN						
ANCHORAGE, ALASKA	42	325	151	241	155	23	47	44	156	50	113	137	37	191	158	29	158	29	279	101	157	167	44	57	327	221	154	36	33	47	42	165	137	50	173	166	334	342	32	253	323	SYDNEY, AUSTRALIA
ASUNCION, PARAGUAY	42	315	141	240	143	7	45	43	146	40	97	131	35	162	142	27	261	81	146	154	45	56	317	177	145	84	33	40	33	46	39	151	129	46	153	155	325	328	30	256	314	STOCKHOLM, SWEDEN
AUCKLAND, NEW ZEALAND	51	321	167	253	186	36	56	53	169	60	117	172	45	217	210	36	284	105	177	187	53	68	346	235	168	331	40	56	50	191	153	59	205	181	349	7	39	270	335	SINGAPORE, MALAYA		
BOMBAI, INDIA	49	320	160	250	172	29	53	51	163	55	112	159	42	203	189	34	279	99	168	178	51	65	338	222	161	54	38	53	47	179	146	56	189	173	342	356	37	266	329	SHANGHAI, CHINA		
BOSNIA, BOSNIA	46	322	156	246	167	28	50	47	160	53	113	151	40	201	183	32	279	101	164	174	48	61	334	224	159	37	36	50	45	175	143	53	185	170	339	351	35	259	327	SANTIAGO, CHILE		
BRAZIL, BRAZIL	38	322	138	236	135	3	41	40	143	37	100	122	32	151	127	24	263	84	141	148	41	52	312	166	142	69	30	42	36	143	126	42	144	152	322	321	27	250	312	SAN JOSE, COSTA RICA		
BREITENBURG, SOUTH AFRICA	45	320	152	245	158	21	49	47	156	49	108	144	39	186	165	31	274	95	158	167	48	60	328	207	154	66	36	50	44	167	138	51	173	166	335	343	34	260	323	ROME, ITALY		
BUEENOS AIRES, ARGENTINA	47	320	157	247	167	27	52	49	161	53	111	153	41	198	182	33	278	99	165	174	50	63	334	219	159	53	37	52	46	175	143	54	184	171	340	352	36	263	327	RIO DE JANEIRO, BRAZIL		
BURUNDI, BURUNDI	44	324	156	243	166	29	49	46	161	53	115	148	39	206	186	31	281	103	164	175	46	59	333	232	159	24	35	48	44	175	142	52	187	171	339	352	34	255	327	QUITO, ECUADOR		
CALCUTTA, INDIA	39	326	142	237	138	12	43	41	148	44	110	122	34	161	123	26	274	97	146	154	42	53	317	189	147	48	31	43	38	149	130	45	150	157	326	326	29	249	317	PRAQUE, CZECHOSLOVAKIA		
CANBERRA, AUSTRALIA	38	323	137	235	133	2	41	39	143	37	101	120	32	149	124	24	264	85	141	147	41	52	312	164	142	66	29	42	35	142	125	42	142	152	321	320	27	249	312	PARIS, FRANCE		
CARACAS, VENEZUELA	43	320	146	242	149	15	47	44	151	45	105	135	37	173	149	28	270	90	152	160	46	58	323	194	150	68	34	47	41	158	134	48	162	161	330	335	32	256	319	OSLO, NORWAY		
CHICAGO, ILL.	47	320	156	247	166	25	51	49	160	52	110	151	41	195	178	32	277	97	163	173	50	63	333	216	159	62	37	52	46	173	142	54	182	169	339	350	35	263	326	MONTREAL, CANADA		
CLEVELAND, OHIO	36	329	135	233	125	1	39	37	142	37	108	111	30	136	106	22	270	94	137	142	38	49	308	150	140	52	27	40	34	135	124	41	131	149	319	313	25	245	312	MONTVIDEO, URUGUAY		
COLUMBIA, S. C.	36	318	133	233	130	355	39	38	138	31	89	119	30	144	124	22	252	71	136	142	39	49	308	154	137	78	28	40	33	138	121	39	138	147	317	316	25	249	307	MEXICO CITY, MEXICO		
DALLAS, TEXAS	39	328	143	237	137	15	43	41	149	45	113	120	34	162	116	26	277	100	147	154	41	53	317	199	147	41	30	43	38	149	130	46	150	158	327	326	29	247	318	MANILA, PHILIPPINE ISLANDS		
DENVER, COLORADO	45	321	153	244	160	23	49	47	157	50	110	144	39	190	168	31	276	97	160	169	47	60	329	212	155	54	35	49	43	168	139	52	176	167	336	345	34	259	324	MADRID, SPAIN		
DES MOINES, IOWA	42	326	155	242	163	30	48	44	160	53	117	142	37	209	185	30	283	105	163	173	44	57	331	239	158	20	33	47	42	174	141	51	187	170	338	350	33	251	326	LONDON, ENGLAND		
DETROIT, MICH.	42	322	145	240	146	14	45	43	151	45	107	132	36	171	143	28	271	93	151	159	44	56	321	193	149	61	33	46	40	156	133	47	159	160	329	333	31	254	319	LIMA, PERU		
EL PASO, TEXAS	41	325	146	240	147	17	45	43	152	47	111	130	36	175	141	28	275	98	152	160	43	56	322	203	150	47	32	45	40	157	134	48	161	161	330	334	31	252	320	LA PAZ, BOLIVIA		
FLORIDA, FLORIDA	31	333	127	228	116	347	34	33	135	28	102	104	26	121	100	18	260	84	128	132	34	44	300	126	134	58	24	35	28	124	117	34	119	141	312	303	21	241	306	JOHANNESBURG, SOUTH AFRICA		
FLORIDA, FLORIDA	44	322	153	244	160	23	49	46	157	50	111	144	39	191	168	30	277	98	160	169	47	60	329	215	156	47	35	49	43	168	139	51	176	167	336	345	33	257	324	HONOLULU, T. H.		
FLORIDA, FLORIDA	41	328	155	240	163	33	47	43	160	54	118	138	37	223	217	30	285	108	163	175	43	56	331	254	158	13	33	46	42	176	140	50	194	171	339	351	32	247	327	MONTREAL, CANADA		
FLORIDA, FLORIDA	45	319	152	245	158	20	50	47	156	49	107	145	39	185	165	31	273	94	158	167	48	61	328	205	154	72	36	50	44	166	138	52	173	165	335	343	34	261	323	MEXICO CITY, MEXICO		
FLORIDA, FLORIDA	44	317	147	243	152	15	48	46	152	46	103	139	38	175	154	29	270	90	153	161	47	59	324	193	150	81	35	49	42	160	134	49	164	161	331	337	33	259	319	MADRID, SPAIN		
FLORIDA, FLORIDA	43	323	151	242	157	23	48	45	156	50	112	140	38	190	162	30	277	99	158	167	46	58	328	216	155	43	34	48	42	166	138	50	174	166	335	343	33	255	324	LONDON, ENGLAND		
FLORIDA, FLORIDA	40	327	147	239	146	21	45	42	153	48	114	127	35	182	133	28	279	102	152	161	43	55	322	220	151	35	32	45	40	158	135	48	163	162	331	334	30	249	321	LA PAZ, BOLIVIA		
FLORIDA, FLORIDA	49	321	164	251	180	34	54	51	167	58	116	166	43	214	204	35	283	104	173	184	51	66	343	233	165	4	39	54	48	187	150	57	199	177	346	3	38	266	333	JOHANNESBURG, SOUTH AFRICA		
FLORIDA, FLORIDA	46	323	161	247	176	33	51	48	165	56	116	160	41	213	203	33	283	104	170	181	48	62	339	235	163	12	36	51	46	184	147	55	197	175	344	0	36	260	331	MONTREAL, CANADA		
FLORIDA, FLORIDA	48	322	163	249	178	33	53	50	166	57	115	164	42	212	202	34	282	103	172	182	50	65	341	232	164	11	38	53	48	185	149	56	197	176	345	2	37	264	332	MEXICO CITY, MEXICO		
FLORIDA, FLORIDA	34	330	131	231	121	354	37	35	138	33	105	108	28	129	104	20	265	89	133	138	36	47	304	137	137	56	26	38	31	130	121	38	126	146	316	308	23	243	309	MADRID, SPAIN		
FLORIDA, FLORIDA	47	321	158	247	170	29	52	49	162	54	113	155	41	203	187	33	279	100	167	176	49	63	336	224	160	41	37	52	46	178	145	55	188	172	341	354	36	262	329	LONDON, ENGLAND		
FLORIDA, FLORIDA	43	322	149	242	153	19	47	45	154	48	109	137	37	181	156	29	274	96	155	164	46	58	325	204	152	55	34	47	42	162	136	49	167	163	332	339	32	256	321	LA PAZ, BOLIVIA		
FLORIDA, FLORIDA	35	325	132	232	127	355	38	36	139	32	96	114	29	138	116	21	258	79	135	141	38	48	307	149	136	67	27	39	32	135	121	38	134	146	317	313	24	247	308	JOHANNESBURG, SOUTH AFRICA		
FLORIDA, FLORIDA	30	333	125	226	115	343	32	31	132	24	95	104	24	121	101	16	252	74	126	130	33	42	298	126	131	62	22	33	26	123	115	32	119	139	310	301	19	240	303	MONTREAL, CANADA		
FLORIDA, FLORIDA	31	321	125	227	120	345	33	32	131	23	79	110	25	131	113	17	240	58	128	133	34	43	300	138	130	75	24	35	27	128	113	32	127	139	309	306	20	243	301	MEXICO CITY, MEXICO		
FLORIDA, FLORIDA	47	322	161	248	175	32	52	49	164	56	115	160	41	210	198	33	282	103	170	180	49	63	339	231	163	20	37	52	47	182	147	55</										